

Industrial

# Standardization

and Commercial Standards Monthly



Standard Electrical Symbols For  
Communication Drawings (page 269)

Byrnes Asks for Standards as Weapon for  
Stabilization (page 293)

November

1942

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# Industrial Standardization

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RUTH E. MASON, Editor

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## This Issue

### For the Engineer and Executive in Industry—

ASA Approves Standard Electrical Symbols for use on Communication Drawings. By W. L. Heard .....	269
Radio Program Tells Why Standards Are Essential to the War Effort .....	273
Straight Screw Threads for High-Temperature Bolting—New American War Standard .....	275
States Adopt Draft Standard for Safety in Construction .....	276
War Brings Tentative Changes in National Electrical Code .....	276
WPB Requests Color Code to Identify Machine Lubricants .....	283
ASA Committees Work Against Difficulties to Protect Industrial Workers .....	284
Standards Issued by Associations and Government .....	289
ASA War Committee Will Develop Measuring Instruments Standards .....	290
Standard Tests and Specifications in WPB and OPA Orders .....	291
ASA Standards Activities .....	294

### About Foreign Standards—

New Foreign Standards in ASA Library .....	276
Canada Standardizes for Better Use of Manpower. By J. Bryon Vaughan .....	279
China Sets Up Program for New National Standards .....	281
New Zealand Helps Orders by Reference to American Standards .....	287
Byrnes Asks for Standards As Weapon for Stabilization .....	293

### For the Consumer and Retailer—

ASA Committee Recommends Labels to Show Colorfastness of Textiles .....	271
War Production Order Reduces Variety in Electric Lamps, By Karl S. Geiges .....	282

### Of General Interest—

OCD Uses Standard Hose Couplings to Assure Interchangeability .....	277
Weiner to Speak at ASA Annual Meeting .....	278
Radio and Safety Engineers Join ASA Staff.....	288



*Reg. in U.S. Pat. Off.*

**Standardization is dynamic, not static. It means  
not to stand still, but to move forward together.**

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Office at New York, N. Y., under the Act of March 3, 1879.



Linemen, draftsmen, engineers—all increase speed and efficiency through the use of standard symbols on communication drawings.



# ASA Approves Standard Electrical Symbols for Use on Communication Drawings

by W. L. Heard<sup>1</sup>

*Secretary of ASA Sectional Committee Z32*

THE speed with which radio and communication systems in general have developed since the last war has made it essential that symbols used in the communication field be coordinated and standardized. Before 1918 there were only a few scattered drawings used in connection with radio; while at the present time the radio has developed until there is hardly a home or commercial business that does not feel its effect in one way or another. Communication has also developed so that our armies, our commercial life, and our home life are dependent upon our ability to transmit speech and telegraph signals to all parts of the earth.

This growth of communication is now being vastly accelerated by the need of keeping all parts of our present war effort coordinated, which in turn in various ways throws an extra load on communication engineering. Not only must the civilian population be cared for but also our war life is dependent upon the ability to confer readily, to talk readily between groups, and readily transmit urgent messages. Communication touches all phases of service from the production of material for the armed forces to the very advanced positions of the Army, Navy, and Air Forces.

## **Tentative Standards For Radio, and Telephone and Telegraph Symbols<sup>2</sup>**

For almost ten years tentative standards for radio symbols were in use, and for telephone and telegraph symbols for more than ten years. It can be said that these tentative standards were of immense value to the radio and communication fields during the period of growth from 1918 to 1942. This can be readily seen by the general use of them on most communication drawings and in most technical publications. Their acceptance has been so general that some drafting rooms have incorporated these symbols into templates which makes it unnecessary to lay out the symbols. Now, with the approval of the American Standards Association these tentative stand-

<sup>1</sup> Bell Telephone Laboratories, New York.

<sup>2</sup> These tentative standards were approved by the American Standards Association as American Tentative Standards Z10.3-1933 and Z10.6-1929.

ards have been revised to some extent. Most of the basic principles incorporated in the symbols in the tentative standards, however, are still in use in the new symbols. One of the important reasons for the present revision was to bring together the material in the communication field and to coordinate it with the standardization of symbols being carried on in other fields.

## **American Standards Replaced**

In the past, telephone and telegraph was treated as one field of effort and radio as another but with the wide development of the communication art these fields began to overlap to such an extent that it was decided to coordinate this work under one general heading to be known as Communications. Under this came the revisions of Z10.3-1933 and Z10.6-1929 into one unified field of endeavor.

## **How the Work Was Accomplished**

Under the able leadership of H. W. Samson of the Standards Department of the General Electric Company, ASA Sectional Committee Z32 for the Standardization of Graphical Symbols and Abbreviations for Use on Drawings has been functioning for some time. To this committee was allotted the work of revising the symbols to be used in communications. The actual work was done by a subgroup under the direction of Subcommittee No. 2 of Z32, this subgroup being known as "Subgroup No. 4 Communication Symbols".

## **Coordination With Power and Control Symbols**

In the preparation of the new communication symbols much thought was given to coordinating all symbols where it was felt that there might in any way be an overlap of uses. This was particularly true of such fields as Power, Control, and Measurement, where the communication drawings may at times be used by the same people who

## 2 BASIC SYMBOLS

2.234 Auto Transformer (Terminals and designations are shown only when terminals require identification)		2.343 Three Conductor	
2.335 Transformer Unequal Ratio		2.344 Series—3 Conductor	
2.336 Transformer With Tapped Winding See note under Core		2.345 Gang	
2.34 Jack		2.35 Key	
2.341 (Assemble as required)		2.351 (Assemble as required)	
2.342 Two Conductor		2.352 Non-Locking	
		2.353 Locking	
		8.354 Telegraph Key	

A typical page of the standard symbols for communication drawings.

use the power drawings. Many copies of the tentative standards were distributed, including copies to electrical manufacturers and others not directly represented on the committees, for such comments and suggestions as might be helpful in attaining the best symbols possible. In the fields where it was felt some overlap was probable it has been possible to harmonize all but four of the basic symbols. On these, the different purposes for which the symbols are required and established usage of these symbols for upward of forty years in the various fields, make it impracticable to evolve single symbols which meet the requirements for the use of all groups. In order to facilitate the use of the symbols in the relatively few cases where the symbols of the various fields may be used on the same drawing, cross references are being added in the various standards as guides to their use.

### Basis of Design and Use of Communication Symbols

Basic symbols which seem to have widespread use and application and only such symbols have been shown in the standards. Each basic symbol typifies a generic type of apparatus. To differentiate between examples of a generic type, expanded or alternate symbols will be evolved. These are selected either from the list shown or by the creation of new expanded or alternate sym-

bols through the combination of basic and/or ancillary symbols in the manner exemplified, for example,

indicates a contact, while

indicates an armature or moving contact. To build up a combination of springs, for example, for a relay we would add these together

in some such fashion as this:

indicates the core of a relay while

indicates an inductive winding on a relay. By adding these combinations together we have the build-

up of a specific type of relay, thus:

The same thing is done with such things as capacitors. indicates a fixed capacitor,

while by adding an arrow to indicate variability we have a variable capacitor, thus:

If this, for example, were for a variable differential capacitor, we would show it, thus:

Graphical Symbols for Communications are intended primarily to indicate electric symbols only, although where their respective physical patterns are markedly more distinctive than their electrical function the mechanical features may be symbolized.

The component parts of each piece of apparatus symbolized have been shown in the approximate physical relation as far as possible without undue complication of the symbol or drawings. In most cases the symbol may be rotated on the drawing to facilitate its application in any particular position on the drawing. Exceptions are cases where definite position must be maintained to identify top, bottom, left, or right. Similarly certain symbols may be reversed, e.g., contacts may be shown on the left, etc.

Communication symbols have not been set up to represent values and the latter must be added when and as required, e.g., capacity of capacitors, resistance of coils, etc.

Symbol sizes and line widths as depicted for these conventions have been designed for average drawing use and when reduced 2 to 1 result in

sizes which seem most desirable for publication purposes. While the sizes and line widths may be altered as required it is felt that the sizes and widths shown in the standards are the best possible for general use. The width of lines representing the electrical connections between pieces of apparatus are shown heavier than the lines

comprising the symbols themselves. The heavy lines at the extremities of certain of the symbols are not part of the latter but are electrical connections thereto. Wires need not be brought into the symbols as shown but may be varied as required to simplify the wiring pattern of the particular drawing.

## ASA Committee Recommends Labels To Show Colorfastness of Textiles

**R**ECOMMENDATIONS for grading and labeling practices to show colorfastness of textiles were submitted to the Federal Trade Commission by the American Standards Association's Committee on Colorfastness, October 17. The purpose is to bring about modifications in the proposed trade practice rules which the Commission issued on August 5, 1942 and on which hearings were held in New York on September 9th and 10th. These rules issued by the FTC provided for the use of A, B, C designations to show differing degrees of colorfastness.

The recommendations submitted by the ASA committee include methods of grading fabrics and of labeling them with descriptive labels to show their degree of colorfastness to light, to washing, to perspiration, and to other color-destroying agents.

### Will Prevent Misrepresentation

Prime purpose of the job when completed by the FTC will be to prevent misrepresentation as to colorfastness of piece goods and of finished garments both to the customer and in the trade. The undertaking is considered timely because of the problem of substitutions and the question of availability of dyes.

Colorfastness to light in the committee's recommendations is based on the "fadeometer test". The fadeometer is an instrument for exposing colored fabrics to light under controlled conditions, and measuring the resulting color changes. Such tests make it possible to grade fabrics according to the number of hours that the goods will stand the strong ultra-violet rays of the fadeometer lamp without significant change in color.

The degree of colorfastness to light is divided in the report into five different grades according to the severity of the test: that is, the number of hours exposure in the fadeometer—10 hours, 20 hours, 40 hours, 80 hours, 160, etc. Each of these grades is then designated by an explanatory term. The recommendations include five grades of colorfastness; a designating term for each; an accompanying explanation; and a method of marking the selvage of piece goods. Beginning with the

most resistant grade of fabric—those passing the highest test under the fadeometer—these are:

*Term:* Sunfast—Color Value 160, 200, 240, etc.  
*Accompanying Explanation:* None  
*Selvage Stamp:* Sunfast—Color Value 160, 200, 240, etc.

*Term:* Sunfast—Color Value 80  
*Accompanying Explanation:* While all colors eventually fade these colors are of a high degree of sunfastness and are satisfactory for any use except continuous outdoor exposure  
*Selvage Stamp:* Sunfast—Color Value 80—See attached label

*Term:* Sunfast—Color Value 40  
*Accompanying Explanation:* While all colors eventually fade, these colors will be satisfactory for wearing apparel or indoor furnishings  
*Selvage Stamp:* Sunfast—Color Value 40—See attached label

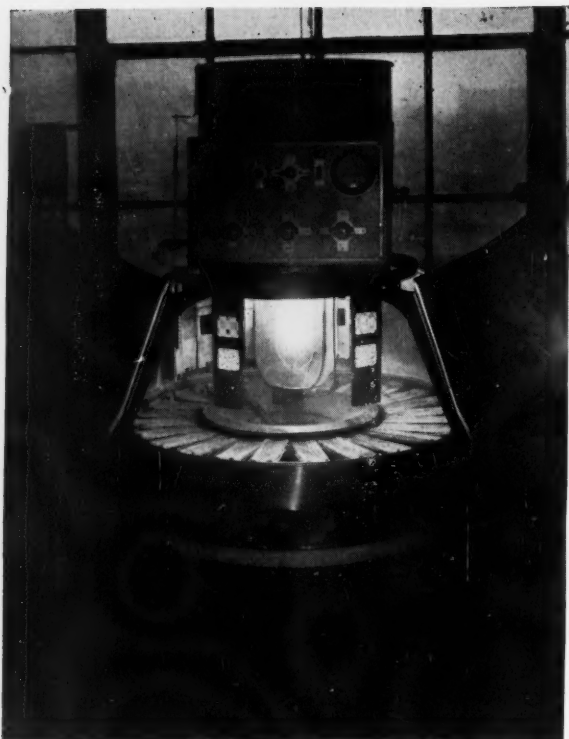
*Term:* Sun Resistance—Moderate  
*Accompanying Explanation:* These colors are satisfactory for general use where not subject to excessive exposure to sunlight. (After washing, do NOT dry in direct sunlight)  
*Selvage Stamp:* None

*Term:* Sun Resistance—Fair  
*Accompanying Explanation:* These colors have a limited degree of sunfastness. Not recommended for prolonged use in sunlight. (After washing, do NOT dry in direct sunlight)  
*Selvage Stamp:* None



Courtesy R. H. Macy Co., Ewing Galloway





*Courtesy National Bureau of Standards*

**This Fadeometer tests the fastness of a fabric's color when exposed to light.**

Colorfastness to washing is graded according to the severity of the test. The higher the temperature of the water the more severe the test. The temperatures in degrees Fahrenheit recommended are: 100 or 105, 120, 160, 180. The four grades of colorfastness to washing recommended are:

**Term:** Washfast Color or Fast to Washing Color or Boil Fast Color

**Accompanying Explanation:** No colors are absolutely fast. These colors will withstand repeated commercial or home launderings at high temperature if bleaching compounds are not used

**Selvage Stamp:** Washfast Color; or Fast to Washing Color; or Boil Fast Color—See label attached

**Term:** Washable Color; or Color—Satisfactory Washability (Wash Separately)

**Accompanying Explanation:** While these colors are not of the highest degree of washfastness, they will withstand commercial or home laundering without boiling or the use of bleaching compounds. After washing, do NOT dry in direct sunlight

**Selvage Stamp:** Washable Color; or Color—Satisfactory Washability—See label attached.

**Term:** Color—Moderate Washability; or Color—Washable as directed

**Accompanying Explanation:** (Wash Separately). These colors can be washed in commercial or home launderings with a mild soap at temperatures not exceeding 120 F and without added alkali or bleaching compounds. After washing, do NOT dry in direct sunlight

**Selvage Stamp:** None

**Term:** Color—Washable with care

**Accompanying Explanation:** (Wash Separately). For best results in commercial or home launderings, wash these colors in lukewarm water at wrist heat (not

over 105 F) with a mild soap and without added alkali or bleaching compounds. After washing, do NOT dry in direct sunlight

**Selvage Stamp:** None

Corresponding grades and informative terms have been worked out for Colorfastness to Drycleaning, to Perspiration, to Pressing (wet or dry), to Crocking, and to Fumes. In the case of Drycleaning, differentiation is made between processes which use only the customary drycleaning liquids and those cleaning processes which include additional treatments. It is well known that many spots on garments cannot be removed by drycleaning liquids and require treatment by clear water, or clear water and mild soap.

The tests upon which the grades are recommended are laid down in Commercial Standard CS 59-41, promulgated by the National Bureau of Standards but with certain recommended changes.

The recommendations have been forwarded to the Federal Trade Commission. Representatives of the following organizations have been active in the work of the committee:

American Association of Textile Chemists and Colorists  
American Association of Textile Technologists  
American Association of University Women  
American Council of Commercial Laboratories  
American Home Economics Association  
American Institute of Laundering  
American Society for Testing Materials  
American Viscose Corporation  
Association of American Soap & Glycerine Producers  
The Celanese Corporation of America  
Cotton Textile Institute  
Limited Price Variety Stores  
National Association of Dyers & Cleaners  
National Association of Finishers of Textile Fabrics  
National Association of Wool Mfrs.  
National Federation of Textiles  
National Retail Dry Goods Association  
Rayon Yarn Producers Group  
Synthetic Organic Chemical Mfrs. Association  
A. M. Tenney Associates  
Textile Fabrics Association  
Office of Price Administration (Liaison)

The representatives of these organizations were in substantial agreement on the recommendations as presented, with the exception of the two important consumer groups: the American Home Economics Association and the American Association of University Women. These two groups had already presented briefs to the Federal Trade Commission recommending designating classes or grades of colorfastness by letters A, B, C, D. A representative of the American Home Economics Association presented the following statement in explanation of the position of her group:

"The American Home Economics Association approves the changes in test methods on the subject of colorfastness to light in the interest of calibrating instruments and standardizing methods. We are not voting on any other point, but will reserve the privilege of making any further recommendation independently, which we may have to make."



# Radio Program Tells Why Standards Are Essential to War Effort

**A**RE standards essential to the war effort? was the question asked Dr. P. G. Agnew, secretary of the American Standards Association, on the radio program presented by Watson Davis, Director of Science Service, over Station WABC September 26. In reply, Dr. Agnew explained to the radio audience in "man-of-the-street" terms why and how standards are being used in production of war equipment as well as for consumer supplies.

Since ASA Members, too, may be interested in this discussion of standards and the reason for them, the standardization part of the Science Service program is reproduced below.

**ANNOUNCER AT WABC:** Mr. Agnew, we have all been hearing a lot about standards in connection with the war. Are standards necessary to the war effort, and are Government and industry making use of standards?

**AGNEW:** Standards are essential to the war effort. Every government order carries with it the standards that define the gun, the tank, or the blanket that the manufacturer has to make. Each manufacturer in turn must control all his operations so that the completed product will comply with the standards originally laid down as a part of the order. Hence every one of these manufacturers should have a thorough understanding of standards—how to work to them in shop, processing plant, and assembly line.

**ANNCR:** Didn't the Army and Navy have all the necessary specifications for munitions and supplies all worked out in advance?

**AGNEW:** The Army and Navy did have elaborate specifications for nearly everything they buy. Yet, the military officers would be the first to admit that under the conditions of total war, innumerable changes and modifications have had to be made and still more must be made. Unfortunately neither the Army nor the Navy had foreseen how necessary it was for them to become part and parcel of our industrial set-up. All this has tended to slow down production. Certainly if the Army and Navy could start again with a clean slate, they would make an infinitely better job of it.

**ANNCR:** I've always thought America was the home of mass production and that every company has all the standards it needs. Isn't that true?

**AGNEW:** Surely this country is the birthplace of mass production. Our standard of living is dependent upon it.

On the other hand, I'm sorry to say that the majority of industrial executives are not yet aware of the basic importance of standards in their own business. Furthermore, we are fighting a total war, and this means that standards should be carried out on a national scale.

In an automobile assembly plant the various parts are carried to the assembly line by conveyor

Standardization is vital factor in mass production of war materials.

*OWI Photo by Palmer*



belts in a smooth, continuous flow. It is like a river with side streams flowing into it.

Our national production program is similar, but on a scale thousands of times larger—like a great river system. At every point where there is a stoppage or bottleneck, standards are needed to smooth out the flow. The function of standards is to make the flow so smooth that there will be no stoppages or bottlenecks.

One of the most important jobs of the War Production Board is to get Government and Industry to unify their standards and to concentrate on the fewest possible types and sizes of products. The Board has set up special branches for this work.

ANNCR: Are we doing better than the Germans in the use of standards?

AGNEW: Decidedly not. From the point of view of wartime production the Germans have carried their standardization work through on a national scale to a far greater extent than has been done either in Great Britain or in this country. For example, German superiority of repair and replacement of parts was shown in the battle of France.

### What Is a Standard?

ANNCR: Precisely what is a standard?

AGNEW: In simple words, a standard is a rule or model to be followed. Our custom of driving on the right side of the road is an important standard. Words are sounds whose meanings have become standardized.

As applied to products, a standard is a definition of the thing you are going to manufacture or to buy. A standard may be extremely simple, or it may be elaborate. When you go to a store and say to the dealer that you want a mop just like the one he sold last year, you are using an extremely simple standard. An Army specification for a tank, a pair of shoes, or an airplane supercharger is a highly technical document. Without such standards the functioning of our economical life would not be possible.

ANNCR: Can standards be used to fight inflation?

AGNEW: Yes. And the OPA has been tuning up to make precisely this use of standards. More and more people are coming to see that price is meaningless unless it is pegged to quality. This can only be done through some sort of standard. Deteriorated quality means hidden price increases.

To make price have meaning, you must *identify* the product by some sort of standard. This is already being done in some price orders, for example, by specifying grades of sheets, and of beef and veal.

Last week Mr. Henderson announced the policy of greatly extending the use of this principle. He said that he was keenly aware that, as military requirements bite deeper and deeper into

civilian production, there were unlimited opportunities for hidden increases in the cost of living through quality deterioration. As one means of preventing this, Mr. Henderson has set up a Standards Division in his Office.

### How ASA Fits In

ANNCR: How does your organization, the American Standards Association, fit into the picture?

AGNEW: Our Association is the national clearing-house for standards. Through it an important part of the standardization work of hundreds of organizations is being consolidated into a single set of consistent national standards. The Army and Navy have made extensive use of these standards in their operations during the last several years. Yet our 600 standards constitute but a few scratches on the surface of the job that needs to be done.

The Government recently entered into a contract with our Association to get out emergency standards for WPB and OPA. This is now our major activity.

ANNCR: I frequently hear the terms "victory model" and "utility model". What do these mean?

AGNEW: As the quality of civilian goods is cut down more and more, the most economical use of productive facilities requires that production be concentrated in a small number of factories.

One school of thought says that these factories should all make one "Victory" model, which means that all would be making identical products. The advantage of this is that production can be carried on more economically provided the factories can make this model without retooling.

Another method is to set a minimum standard for quality or performance and thus work to a "Utility" model. Each manufacturer can then make the type to which he can most easily adapt his existing machinery. The British have found that, in most cases, they can do best by this method.

Our War Production Board has announced a policy of rapidly increasing concentration and has pointed out the supreme importance of standards and simplification in this process.

### Do Standards Stop Progress?

ANNCR: Isn't all this standardization going to stop all progress? What will it do to research and development?

AGNEW: On the contrary, standards make for progress. To an industrialist a sound standard represents the best way of doing a thing—at the moment. If tomorrow he finds a better way, he will codify it into a new standard. Without

standards each piece of machinery would be an individual problem, even each screw and each nut. Each standard relegates a problem that has been solved to the field of routine. This leaves us free to do creative work on solving the next problem.

The danger of stagnation lies, not in the use of standards, but in taking a fixed mental attitude, instead of always keeping our minds receptive to new ideas.

As to research—research and standards have always been complementary factors in an advancing industry. Over and over again, the development of a national standard has meant a better product, and a less expensive product.

The relation between research and standards may be summarized in a word by saying that standardization consists in finding out the best way of doing a thing, and then doing it that way—until a better way is discovered.

## Straight Screw Threads For High-Temperature Bolting

### New American War Standard Approved

THE increasing use of high pressures and temperatures in pipe lines and pressure vessels has emphasized the need for standard screw thread practice especially designed to meet the severe requirements such service demands of the bolting.

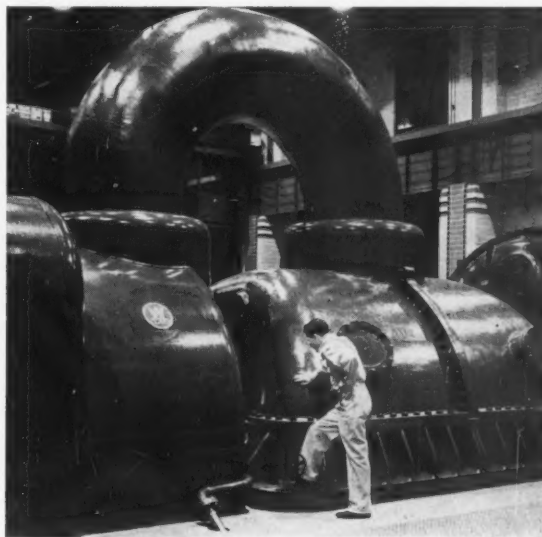
Last June, the War Production Board asked the American Standards Association to apply its War Standards Procedure to the development of a standard for high-temperature bolting. Work on this subject had already been started by a subcommittee of ASA Committee B1 on Screw Threads. This subcommittee, under the chairmanship of W. H. Gourlie, was appointed the ASA War Committee to deal with this project, and in October it submitted to the ASA a proposed American War Standard, Straight Screw Threads for High-Temperature Bolting (For Use with Pressure Vessels and Steel Pipe Flanges, Fittings, and Valves). This standard, which received ASA approval on November 6, 1942, is based on the following considerations:

The increasing use of high pressures and temperatures in pipe lines and pressure vessels has led to the general adoption of a screw thread practice for bolting used for this kind of service. American Standard Coarse threads are used for diameters up to and including 1 inch, and American Standard 8-Pitch threads, for larger diameters. Both kinds of threads are given in the American Standard for Screw Threads, B1.1-1935.

To facilitate assembly of bolts and nuts and reduce the possibility of seizure of the threads, it has been found necessary, in using high-temperature bolting, to provide an allowance or neutral zone between the minimum nut and the maximum screw. However, the Class 1 fit given in the American Standard B1.1-1935, which is the only one providing such an allowance, had not been found suitable for high-temperature service. The committee's assignment was, there-

fore, to develop limiting thread dimensions that would give a satisfactory fit for this purpose.

The ASA War Committee has established a standard based on the use of American Standard Coarse Threads for sizes 1 inch and smaller, and the American Standard 8-Pitch Threads, for larger sizes. An allowance or neutral zone between the minimum nut and the maximum screw is obtained by making the maximum pitch diameter of the screw smaller than the minimum pitch diameter of the nut by an amount equal to the difference between the Class 2 and 3 tolerances specified in the American Standard B1.1-1935, for the nominal diameter concerned. The screw has been given a Class 3 tolerance so that



*Courtesy Westinghouse Electric & Mfg. Co.*

**35,000 Kilowatt turbine generator—one place where bolting for high-temperature service is needed.**

the minimum pitch diameter of the screw is equal to the minimum pitch diameter of a Class 2 screw according to B1.1-1935.

In conformance with American Standard practice, the basic nut has been retained, the allow-

ance being taken exclusively from the screw. Class 2 tolerances have been adopted for the nuts. All nut dimensions given in this standard are in agreement with those given in the American Standard B1.1-1935, for Class 2 product.

## New Foreign Standards Now in ASA Library

**T**HE following new and revised standards, just received by the American Standards Association, may be borrowed by ASA Members, or ordered through the ASA Library.

### Australia

AC Electric Arc Welding Plant (Transformer Type), Specifications for C-97-1942

### Great Britain

#### New British Standards

Silicon Aluminum Alloy Castings 2L33  
35-Ton Steel Tubes 3T1  
85-Ton Nickel Chromium Steel Tubes 3T2  
35-Ton Steel Tubes (Suitable for Welding) 2T35  
45-Ton Steel Tubes (Suitable for Welding) 2T45  
50-Ton Steel Tubes 2T50

#### Amendments to British Standards

Aluminum Alloy Rivets CF (AC) 9997 for 2L37  
Aluminum Coated Aluminum Alloy Sheets and Coils CF (AC) 9998 for 2L38  
Aluminum Sheets:  
Hard CF (AC) 994 for 2L4  
Half hard CF (AC) 9995 for 2L16  
Soft CF (AC) 9996 for 2L17  
Soft Aluminum Alloy Extruded Bars and Sections CF (AC) 9999 for L44

### Amendments to British Standards (Continued)

Soft Aluminum Alloy Sheets and Coils CG (AC) 609 for L46

### BS Air Raid Precaution Specifications

Asphaltic-Bitumen and Coal-Tar Adhesives for the Texturing of Horizontal Roofs for Camouflage Purposes BS/ARP No. 61

### New Zealand

#### Standard Specifications

Portable Chemical Fire-Extinguishers of the Carbon-Tetrachloride Type (1 Quart) NZSS 356  
Portable Chemical Fire-Extinguishers of the Foam Type NZSS 355

#### Emergency Standard Specifications

Black Steel Bars for the Production of Machined Parts for General Engineering Purposes NZSS L77  
Bright Steel Bars for the Production of Machined Parts for General Engineering Purposes NZSS E78  
Camouflage Paints NZSS E80  
Code of Practice for Rot-Proofing Sandbags NZSS E87  
Manufacture of Women's Footwear, Simplified Practice NZSS E73(SP)  
Milking Machine Rubberware NZSS E74  
Nylon Toothbrushes NZSS E84

## States Adopt Draft Standard For Safety in Construction

The States of Washington and Oregon inform the American Standards Association that for the protection of construction workers in those states they have adopted a draft standard for Safety in the Construction Industry which was prepared by ASA Committee A10. Several minor changes were made in the recommendations before approval by the State of Washington but these changes have very little effect on the use of the recommendations as a whole.

The document used by these two states is the most recent edition of a draft which was prepared by the chairman of the ASA Committee on Standards for Safety in the Construction Industry (A10). This committee is working under the sponsorship of the American Institute of Architects and the National Safety Council. The draft standard, which was sent to the National Safety Council as sponsor in December, 1940, is being considered by that organization.

## War Needs Bring Tentative Changes In National Electrical Code

The ASA committee in charge of the National Electrical Code announces that it has adopted several Tentative Interim Amendments all of which are war emergency items and are effective only for the duration. These interim amendments have not been approved by the American Standards Association. The most recent edition of the National Electrical Code was approved by the ASA in 1940, and the next edition is scheduled for 1943.

A Supplement to the 1940 edition just issued by the National Board of Fire Underwriters contains interpretations as well as all the tentative interim amendments approved and released prior to September 1, 1942.

Information about the interim revisions can be obtained from Alvah Small, chairman of the committee in charge of the National Electrical Code, 207 East Ohio Street, Chicago, or from the National Fire Protection Association, sponsor.





Quick and easy fitting of fire hose to hydrants will make it possible for OCD to meet future emergencies.

*OEM Photo by Hollen*

## OCD Uses Standard Hose Couplings To Assure Interchangeability

**A**MERICAN Standard screw threads for fire-hose couplings have been selected by the Office of Civilian Defense as standard for emergency fire-fighting equipment. Through this decision, production is speeded, transportation problems are solved, and interchangeability of equipment is assured.

When the OCD decided to buy fire hose and pumpers to help communities meet the threat of destruction by bombing raids, several problems had to be resolved. First, equipment had to be interchangeable so that it could be transferred from place to place quickly to prevent one community from suffering severe loss while another had equipment standing unused. In the past, the OCD found, there had been sad experiences when equipment rushed from one town to another had stood by helplessly because fire-hose couplings had not been standardized and hose could not be attached to water mains. Such experiences, however, have had their effect and 80 per cent of the communities in the United States now can make use of interchangeable equipment because their equipment is fitted with American Standard screw threads.

The second, and equally important, consideration faced by the OCD was concerned with the manufacture of the equipment. Since large quantities of hose would be required to meet the demands of the Army, Navy, Civilian Defense, and ordinary municipal needs, thus making necessary a wide distribution of contracts, it was obvious that procurement problems would be greatly simplified if the same factories could turn out standard hose to meet these several demands. A thread survey disclosed that so far as Civilian Defense requirements were concerned the great majority of American cities were already using standard couplings. A further consideration was the fact that nozzles, reducers, wyes, playpipes, and siamese connections are not usually made at the same factories that produce hose, and hence the use of non-standard couplings would add considerably to the problems of manufacture. The time element was the deciding factor, however, since so much delay had occurred in determining the allocation of material for Civilian Defense that the possibility of piece-meal contracts, such as would have been necessary to procure hose couplings corresponding to the various threads in use in individual cities,

had to be ruled out of the picture altogether.

These considerations led to the adoption of the standard coupling and as a result contracts are distributed among a number of manufacturers and shipments of equipment are made direct to cities. It is of interest to note that hose for the Army, the Navy, and the OCD is now being produced from the same factories.

### Pumpers for Pearl Harbor

The importance of standard couplings is illustrated graphically by the story of Pearl Harbor. So swift was the action taken by the authorities in the United States that on the day following the attack 100 pumpers were collected from different manufacturers, together with a Pullman carload of hose, dispatched to San Francisco by rail, and from San Francisco shipped to Hawaii. If the pumpers and hose couplings had not been equipped with the standard screw thread, which could be connected to the equipment already in use in Hawaii, it might have been days or weeks before this same amount of equipment could have been located and sent on its way.

The great majority of the cities in the United States use the American Standard thread for fire-hose couplings, but a report compiled recently by the National Board of Fire Underwriters shows that several of the larger cities do not. This is particularly true of those large cities where long-established practice makes change-over more difficult. These cities exert a strong influence on the smaller cities in neighboring communities which also use non-standard thread in order to gain the advantage of their larger neighbor's help in case of an emergency. This the report shows, is particularly true in such states as Pennsylvania, Illinois, New York, and Ohio.

### Adapters May Be Used

Many of these communities are finding it possible, however, to make use of the OCD emergency fire-fighting equipment by attaching adapters which permit the connection of standard hose couplings to the non-standard hydrant threads. Others, such as New York City, have decided that this is impossible. OCD, therefore, has taken back the hose furnished to New York and is placing New York's special order on the list to be manufactured as soon as the standard hose couplings have been completed. It is understood that the delay is necessary in the case of the New York order not only because of the importance of keeping the machines tooled up for the speedy production of the standard couplings, but also partly due to the fact that New York fire-hose couplings are not manufactured to specific specifications. Lack of sufficient technical information about the pitch of the New York thread and the fact that

limit gages are not available make it necessary to furnish a template to the manufacturer from which the required thread is developed by a trial and error method. A similar problem is facing the delivery of emergency fire-fighting equipment in Philadelphia, since that city uses a snap coupling. In the Philadelphia case, critical materials may complicate the problem since there is a question whether the snaps can be made of other than a special bronze.

The American Standard Fire-Hose Coupling Screw Thread, which is also known as the National Standard Screw Thread, was prepared under the leadership of the National Board of Fire Underwriters, the American Water Works Association, and the American Society of Mechanical Engineers. It was approved by the American Standards Association in 1925. It covers the threaded part of fire-hose couplings, hydrant outlets, stand-pipe connections, and all other special fittings on fire lines where fittings of 2½, 3, 3½, and 4½ inches nominal diameter are used. It also includes the limiting dimensions of the gages for inspecting the threads in the field. At the time of its approval the standard was endorsed by 17 organizations closely concerned with fire-fighting.

### Weiner to Speak at ASA Annual Meeting

Scheduled for December 11  
in New York

Joseph L. Weiner, Deputy Director of the Office of Civilian Supply of WPB, will speak at the Annual Meeting of the American Standards Association, Friday, December 11th. As well as acting head of the Office of Civilian Supply, Mr. Weiner is Chairman of the Government's Committee on Concentration of Production in Industry.

In view of the widespread interest in what lies ahead for the industries not yet completely converted to war work, the American Standards Association is inviting all to attend the meeting who wish to hear Mr. Weiner, whether they are members of the ASA or not.

If you have not received an invitation to the Annual Meeting write at once to the American Standards Association, 29 West 39th St., New York City and arrangements will be made for you to attend. Luncheon is at one o'clock, at the Hotel Astor, New York City.

# Canada Standardizes For Better Use of Manpower

Simplification as price-control tool  
now being sharpened to cut out  
non-essential industry

by J. Bryan Vaughan

*Information Branch, Wartime Prices and  
Trade Board, Ottawa, Canada*

WITH the demand for more manpower growing stronger daily, the Canadian Wartime Prices and Trade Board is inaugurating a new and more intensive program of "simplified practice." Standardization measures already undertaken have contributed considerably to the war effort.

Until recently emphasis was placed on rationalization as an economy measure to enable manufacturers to absorb the "squeeze" between increased production costs and fixed retail price ceilings. The need for conservation of materials was also stressed. To make the maximum amount available for direct war work it was necessary to use the minimum needed for essential civilian requirements.

But in a recent reorganization, the Board's Division of Simplified Practice was merged with a newly established Industrial Division whose expressed objective is concentration of industry to release manpower for more direct war work: All administrators have been instructed to examine their industry and to make recommendations as to essentiality. At the same time, they have been requested to review the standardization steps already undertaken and to see where further simplifications can be introduced with the over-all objective in view.

Soon after the average Canadian starts off his day he comes in contact with "simplified practice". Bed styles have been roughly halved and sheets are standardized. Fancy edges are not a feature of new blankets. Pyjamas have no pockets. Shaving brushes have been cut from 47 to 13 styles. When he puts on his new socks he can comment on their somewhat conservative shade—multi-colored socks in fancy patterns were ruled out in an effort to simplify manufacturing as well as to conserve wool. (One hosiery manufacturer has cut his color card from 1,600 to 33 shades.) He finds six instead of 14 pins and less cardboard in his shirt. His suit has no cuffs or pleats and

comes in a single-breasted style only. Even the elastic content of his suspenders has been reduced. The whisk to brush his hat has been simplified—as has the hat itself. Everything from cribs to caskets has been simplified.

Early this year, Canada's Wartime Prices and Trade Board, aware that control of prices goes back to control of costs, and ultimately to the major problem of supply, established a Division of Simplified Practice.

Simplified practice is simply reducing the number of varieties of manufactured products and devising more efficient and economical methods of making, distributing, and selling them. As imports are cut off and domestic supplies dwindle, unless a product is shorn of its frills and extras, the war effort is definitely impeded. The Industrial Division aids in the adoption of and adjustment to these changes in production, distribution, and marketing which are designed to release manpower, materials, and machines for direct war work. As the "extras" disappear, essential goods can be produced in greater numbers by fewer operators. And fear of shortages ceases to inspire buying sprees. This in turn assists in the smooth operation of the price-ceiling policy, by keeping goods moving within their fixed limits; and, by reducing the costs of manufacturing and other operations, gradually does away with the payment of subsidies.

The program, in principle, applies not only to manufacturing, but also to retail and wholesale trade operations, and to the service industries.

There are sixty-odd Administrations in the Wartime Prices and Trade Board, some of which have several directors in charge of different divisions. There are 174 trade and industry advisory committees with a personnel totalling more than 1,000. The executives comprising these committees and most of the Administrators—all outstanding in the fields they represent—serve without remuneration.

These committees work with the Administrators, supplying a representative viewpoint based on their combined experience. One of the outstanding features of this industrial simplification plan is the fact that most of the Orders issued by Ottawa over the signature of Donald Gordon emanate from the particular industry or trade concerned, and are merely "made official" by the Board. As one manufacturer recently expressed himself: "We will streamline our business to any extent to help Canada's war effort—provided Ottawa makes it official and all other manufacturers in our industrial field do the same." A Board Order calls for the compliance of all affected, and no one firm is able to take advantage of the other's economy efforts.

### Consumer Feels Results of Simplification

Already almost 200 orders ranging from barbed wire to bath tubs have been issued. The consumer, too, is experiencing the results of simplification, not only indirectly in the form of purchased commodities, but first-hand through restricted store deliveries, curtailed installment buying, and reduced services.

Here are a few examples of how "frill-cutting" has been applied to industry. Specifications for asbestos paper were cut from nine to five available weights and thicknesses, resulting not only in the release of machines for other purposes, but in a considerable saving of inventory costs and storage space for manufacturer, wholesaler, and retailer alike. Asbestos paper, previously manufactured in 25, 50, and 100 lb rolls, was restricted to a 100 lb roll only—saving in man-hours, machine time, wrapping, and shipping costs. Millboard, used for lining stoves, insulating furnace rooms, etc. was cut from eight thicknesses to five, resulting in similar savings. By restricting the shipping of asbestos shorts and cement to minimum carload lots of 40 tons where 30 tons was standard practice before, estimated shipping space of 25 per cent—or 100 boxcars in Canada alone—was released for more vital war shipments.

### Simplification Cuts Stocks in Half

In another order on sectional switch and outlet boxes and covers, 95 types were eliminated, which permitted manufacturers and distributors to cut their available stocks in half. At the same time permission was obtained from the Canadian Electrical Standards Association to use 16-gauge steel instead of the 14 gauge previously permitted, and the approximate savings amounted to some 300 tons of steel—or sufficient to make 10 Ram tanks.

Another outstanding diversion of a valuable war material was obtained by prohibiting the use of rubber as an outside coating on domestic electric cords. On one line alone 27,000 lb of the best grade plantation rubber—or sufficient to provide rubber tracks, insulated wire, and shock

padding for 18 army tanks—was saved. This same order discontinued 21 lines of flexible electric cords for use on toasters, irons, floor lamps, etc, leaving only nine lines.

By modifications in the manufacture of men's, women's, and children's footwear, an estimated saving of half a million dollars was passed along to the shoe manufacturers. Part of this was effected by the elimination of box labels resulting in a labor time saving of over \$3,000, and \$3,000 on fabric labels. At the same time, enough leather to sole 16,000 pairs of army boots was diverted to essential military production through the elimination of what is known to the trade as full-breasted heels. By cutting out the use of leather in covering heels in the cheaper lines of women's shoes, enough leather is saved to make up 200,000 pairs of new shoes. By restricting the number of cutting dies allowed, a saving in valuable die steel alone of 15 tons is expected.

Despite these drastic changes in manufacturing methods, the consumer does not suffer in any way through a lessening of quality in the goods concerned. On the contrary, by means of one clause in this shoe order which eliminates the buffing and dyeing of sole leather, the actual wearing time of the shoes themselves is increased by some two or three weeks.

### Board's Orders Save Vital Materials

Other Board orders—at random—include the saving of 5,250 lb of rubber through restrictions in the use of rubber printing dies; the release of 40,000 lb of shellac to ammunition plants through economies in the manufacture of ladies' felt hats; sufficient cloth to make 150,000 soldiers' battle dresses by means of conservation in the manufacture of women's clothing; and saving of cotton thread, manpower, and machine time through the reduction of 159 shades of sewing thread to a maximum of 50.

By packing six instead of three pair of hose per box, labor and box costs are reduced by 2-1/3 cents per dozen hose. By eliminating cellophane envelopes and wraps, labor and packaging costs can be dropped 11 1/2 cents per dozen, one manufacturer estimates. Each set-up of machinery and trial run on a new pattern of hosiery was estimated by one manufacturer to cost \$75. For an average of 50 new patterns for the season, the cost would amount to \$3,750, which amount is now saved by freezing patterns. Dividing by his production run, the manufacturer estimates the saving amounts to three cents per dozen hose.

### Industrial Division Helps With Problems

The Industrial Division is also active in other fields. The small business man is served through its Management Service Section whose staff surveys different fields and draws up a program planned to help merchants with their wartime problems. Following an intensive survey into the hardware trade across Canada a 28-point plan,



covering a wide variety of points, from parcel wrapping and bad debt losses to substitute merchandise, was submitted to hundreds of hardware dealers throughout Canada and plans are under way to carry this service into other commodity fields.

The Division also operates a Dormant Stock Department, which acts as a clearinghouse for surplus and idle stocks which might help the war effort and which would otherwise be disposed of as junk. To date it has listed over \$2,000,000 worth of merchandise and moved such items as tooled steel, copper tubing, extinct sizes of screws, bolts and rivets, etc. It even sold a locomotive!

On August 19 Prime Minister Mackenzie King made the following statement relative to the duties assigned to the Wartime Prices and Trade Board in releasing labor to meet the manpower crisis: "The government has decided non-essential civilian activities should be curtailed or eliminated. The Wartime Prices and Trade Board, which exercises control over civilian trade and industry,

has been directed to put this policy into effect by such measures as appear necessary for the purpose. Additional manpower for war service will thus be made available as rapidly as possible. Besides restricting and eventually eliminating non-essential activity, measures will be taken to ensure that minimum essential needs are satisfied by the use of the least possible amount of manpower, materials, machinery, fuel, power, and transportation. In restricting civilian activity, the Wartime Prices and Trade Board will act in closest collaboration with the Director of National Selective Service, whose duty it will be to direct into the most useful channels the manpower released from non-essential civilian activities."

On September 11 the Industrial Division was set up with the specific duty of carrying out such measures as may be necessary in curtailment or elimination of non-essential civilian activities in order to direct manpower into the most useful channels.

## China Sets Up Program For New National Standards

**P**LANs for the development of Chinese industry and for the rebuilding of China after the war are going forward now through the National Resources Commission set up by the Chinese Government, as well as through such unofficial groups as the Chinese Institute of Engineers. Requests for information as a basis for new Chinese national industrial standards have already been received by the American Standards Association from the National Resources Commission.

The Commission is assembling information as to the basic standards in use in the principal industrial countries, such as weights and measures, screw threads, machine elements, and the like.

Special attention is being given to problems that will be encountered in the period of post-war reconstruction through commercial interchange with metric and non-metric countries. A great proportion of the equipment used in the post-war development of the country will, it is recognized, necessarily come from Great Britain and the United States (the inch countries) although trade with the metric countries will also be extensive. Hence in connection with certain questions of interchange of parts and supplies certain difficulties will arise.

Chinese industry and industrial engineers are, with the encouragement of the government, also taking steps to forward the growth of industry in China and to develop national industrial standards. A Chinese Industrial Standardization Asso-

ciation was organized in August as a result of the Eleventh Annual Conference of the Chinese Institute of Engineers held in Lanchow, Kansu Province, China. Six hundred people were present at this conference which lasted for a week. The most important subject discussed during the conference was the development of the natural resources of the Northwest provinces of China, particularly of Kansu Province itself.

Generalissimo Chiang Kai-shek sent a special message to the conference which was presided over by the Minister of Economic Affairs. The Generalissimo called for a mobilization of the technical resources of China, both for the war effort and post-war reconstruction.

In the United States, the American Section of the Chinese Institute of Engineers has just been re-activated after several years of inactivity, with 300 Chinese engineers as members. The primary aims of the Institute are to improve the engineering knowledge and experience of Chinese engineers in this country; to cultivate closer fellowship and contacts between members; and to cooperate with similar organizations in China and abroad for the advancement of engineering and science. L. F. Chen, a member of the National Resources Commission and of the Chinese Institute of Engineers, is president of the American section; and A. T. Liu and P. H. Chin are vice-presidents. The headquarters of the Institute are located at 119 West Fifty-seventh Street, New York, N. Y.



*Courtesy General Electric*

by Karl S. Geiges

*Simplification Branch, War  
Production Board*

## WPB stops production of 50 and 75-watt bulbs

# War Production Order Reduces Variety in Electric Lamps

THE simplification of incandescent, fluorescent, and other electric discharge lamps covered by Limitation Order L-28-a was first proposed as a conservation measure in the War effort the first part of 1942. Substitution of steel and iron for brass and nickel in the lamps manufactured wiped out much of the critical material savings that would have resulted from simplification; but other factors, such as the need for conversion to radio tube manufacture and the increasingly critical labor situation, made a simplification program desirable from the standpoint of the War Production Board.

The simplification program that was developed with the Consumer Durable Goods Branch covered a wide variety of reductions in the number of voltages, bulb sizes, optional bases, colors, markings, ratings, etc.

The variety of lamps was reduced from more than 3500 types to 1609 types by eliminating lamps for which suitable substitutes existed.

On the basis that lamps for amusement devices, such as pin ball games and children's toys, and convenience lamps for household appliances were not essential, the lamps that were designed and manufactured specifically for this type of service were removed from the permissive list.

Under the original Order (L-28) the manufacture of lamps designed primarily for advertising, decorative, or display purposes were prohibited.

However, there was a great deal of question on the part of manufacturers as to the actual Limitation involved and L-28-a serves to clarify that situation by the removal of those lamps which were primarily intended for those prohibited uses.

The elimination of the 50 and 70-watt ratings for all general-purpose lamps was a logical step because theoretically and practically the 15, 25, 40, 60, and 100 watt lamps<sup>1</sup> are entirely adequate for illumination needs. It may be of interest to point out that the 50 and 75-watt lamps were inserted in the manufacturers' schedules for competitive reasons that should receive no recognition in a War-time economy.

Until recently a consumer could order 13 colors or shades of color in incandescent lamps in the standard wattages. This variety has been reduced to three colors and those were retained largely because of the need for indicator lights on industrial machines, fire exits, etc.

A wide variety of voltages was available in the standard lamps and for essential purposes it has been found possible to reduce the number from 32 to 7, thereby eliminating unnecessary stocks.

Sixteen bulb sizes out of 52 have been elim-

<sup>1</sup> It is interesting that these sizes are practically identical with the 5-series of the American Standard Preferred Numbers. The corresponding numbers in that series would be 16, 25, 40, 63, 100, which give the theoretically most economical use of materials and labor of any five sizes that could be chosen covering the same range.—Ed.

inated entirely. These sizes were largely used for ornamental and decorative lamps.

Many lamps could be obtained with as many as seven optional bases for use in special lamp sockets. This practice has been eliminated, specifying one base size for each lamp with the single exception that export lamps are permitted to have the special bases that are necessary for use in foreign fields.

Lamps were marked with special markings to indicate the name of the customer and this often necessitated the maintenance of special stocks. All such markings have been eliminated.

The 500-hour lamp which was introduced as competition for imported lamps (largely Japanese) has been eliminated and the 1000-hour lamp which remains not only conserves critical material but is more economical for the purchaser because one long-life lamp costs much less than two short-life lamps.

The reduction in lamp types releases productive capacity for manufacture of critical radio tubes and other War products; saves 8,000 pounds of tungsten, 35,000 pounds of solder, 650 tons of steel; and releases 1,300,000 man-hours of direct labor.

## WPB Requests Color Code To Identify Machine Lubricants

THE War Production Board and the National Machine Tool Builders Association have requested that work be started at once by the American Standards Association on a standard color code for lubricants, as a War Emergency project. Purpose of this standard will be to indicate by color the grease or oil to be used in a given part of a machine, thereby preventing costly mistakes on the part of the operator. Standard color markings will be applied to the machine part to be lubricated and to the container carrying the lubricant required for that part. For example, the oil cap on the spindle-bearing of a grinding machine might be painted red and the same color used to mark the container holding spindle oil.

Inexperienced workers, now employed in manufacturing plants, make such a standard as the above a practical necessity, according to the machine tool builders who requested the job. A maintenance man erroneously putting grease into the spindle bearing of a grinding machine, instead of the fine oil needed, can in a few minutes do enough damage to keep the machine idle for months.

In submitting the problem to the American Standards Association, Tell Berna, General Manager of the National Machine Tool Builders' Association, said:

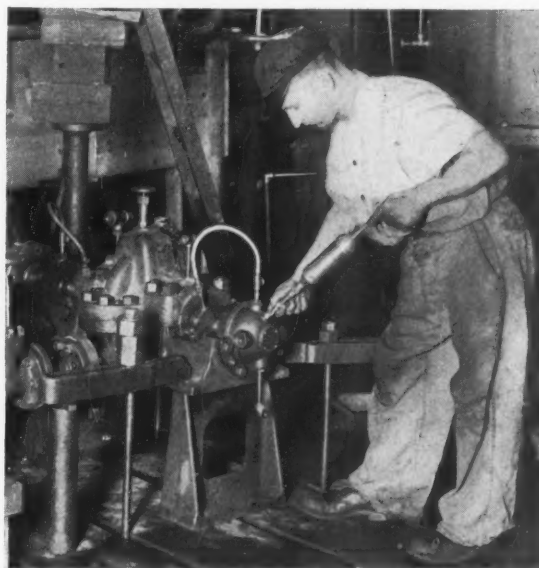
"We are but one of many elements that wish to be considered because the same man that oils and greases machine tools in a shop will also have charge of conveyors, cranes, shears, brakes and presses, elevator trucks, power houses with all their miscellaneous equipment, and such odds and ends as motor-driven doors and heat-treating equipment."

Quoting from a letter on the same subject received from Howard Coonley, Chief, Simplification Branch, Conservation Division, WPB:

"It has come to the attention of the War Production Board that damage to machine tools and other machinery is being caused by the use of

the wrong lubricant due to lack of proper identification of the contents of the can, lubricator, or other device containing a lubricant. It is also understood that errors of this kind are increasing under the present conditions due to the fact that more and more inexperienced workmen are being employed in industry. Thus, valuable machinery may be put out of action for several months on account of scarcity of materials required for their repair, with consequent delay in the war production effort. The machine-tool builders have expressed themselves as being in favor of the establishment of a nationally unified color code for lubricants for machinery to remedy this situation.

"The War Production Board, realizing the importance of such a standard code to the war effort of the national industry, hereby requests that an American War Standard Color Code for Lubricants for Machinery be developed under procedure of the ASA."



*Courtesy Worthington Pump and Machinery Corp.*



# ASA Committees Work Against Difficulties To Protect Industrial Workers

**T**HE urgent need for preventing loss of man-hours in war production, pointed out frequently during the past few months by the War Production Board, emphasizes the importance of the safety standards of the American Standards Association. Many of these standards are now in various stages of development, have met snags due to the war situation or for other reasons, or are nearing completion. Members of the American Standards Association may be interested to know how some of these safety standards are progressing.

## **Standards for Safety in the Construction Industry (A10)—**

A tentative final draft of this document was completed by the chairman of the sectional committee and submitted to the National Safety Council, one of the sponsor organizations, in December, 1940. It is being considered by the Council. The other sponsor organization is the American Institute of Architects.



*Photo by Edward Ratcliffe*

## **Safety Code for Window Cleaning (A39-1933)—**

Several years ago a suggestion was made by the ASA Safety Code Correlating Committee that requirements for belts and anchors be included in this standard. The National Safety Council, sponsor, has reported that it is working on this suggestion but it is understood that special research is necessary and that no funds are available for this purpose.

## **Safety Code for General Industrial Stairs (A64)—**

There has been no activity on this project since it was initiated in 1939.

## **Safety Code for Construction, Care, and Use of Ladders (A14-1935)—**

The ASA Sectional Committee agreed in December, 1939, on a revision of the standard. It is understood that the sponsor of the project, the National Safety Council, is working on the draft of the revision.

## **American Standard Supplement to the Safety Code for Elevators, Dumbwaiters, and Escalators (A17.3-1937)—**

This supplement has been issued in place of a complete revision of the 1937 edition of the standard, and contains errata, interpretations, and revisions of the rules. The American Institute of Architects, the American Society of Mechanical Engineers, and the National Bureau of Standards are the sponsor organizations.

## **Safety Code for Walkway Surfaces (A22)—**

This project is still under consideration but no progress has been reported for several years. Sponsors are the American Institute of Architects and the National Safety Council—American Society of Safety Engineers—Engineering Section.

## **Protective Lighting of Industrial Plants, War Standard (A85)—**

Work on this War Standard was started at the request of the Insurance Committee for the Protection of American Industrial Plants and the U.S. War Department. A draft of the proposed standard has been completed and the final vote is being taken.

## **Safety Code for the Use, Care, and Protection of Abrasive Wheels (B7-1935)—**

Extensive revision of this standard has been started by the sponsors, the Grinding Wheel Manufacturers Association, and the International Association of Industrial Accident Boards and Commissions. A steering committee has been appointed to prepare a tentative revision.

## **Safety Code for Protection of Industrial Workers in Foundries (B8-1932)—**

In November, 1938, the Safety Code Correlating Committee recommended that the American Foundrymen's Association and the National Founders Association, joint sponsors for this work, investigate the need for revision of this 1932 standard as the result of new foundry-operating conditions. To this recommendation the American Founders Association replied that the code required more extensive revision than had



been suggested by the Safety Code Correlating Committee, and that the AFA was itself developing a Foundry Code for the industry. The AFA subsequently advised that its code was not to be submitted to the sectional committee as a revision of the American Standard, and that the AFA was withdrawing as sponsor for the ASA project. This resignation was laid on the table at the May, 1940, meeting of the SCCC. The National Founders Association resigned from sponsorship on May 16, 1941.

#### **Logging and Sawmill Safety Code (B13-1924)—**

Proposed additional material covering hand tools, and transportation of tools and logs was considered at a meeting of the sectional committee at Chicago during the 1941 National Safety Congress. Since that time Professor E. T. Clark, a member of the Committee on Revision, has proposed that the revision be postponed because the shortage of trucks and tires will eliminate log-handling methods which have been developed since the original code was printed. One of the principal revisions was to have been the inclusion of these methods.

#### **Safety Code for Mechanical Power-Transmission Apparatus (B15-1927)—**

This American Standard was reviewed and reaffirmed by the sectional committee during the past year. Sponsor organizations are the American Society of Mechanical Engineers, the International Association of Industrial Accident Boards and Commissions, and the National Conservation Bureau.

#### **Safety Code for Conveyors and Conveying Machinery (B20)—**

Reports of five subcommittees were combined into a preliminary draft of a proposed American Standard and copies were sent to the chairmen of the subcommittees for their review and critical comment in February, 1941. The present national emergency has interfered somewhat with the progress of this code because the officers of the subcommittees have not been in a position to devote the necessary time to the project. Recently, however, the ASME Materials Handling Division has indicated interest in the completion of this code. The American Society of Mechanical Engineers and the National Conservation Bureau, administrative sponsors, are taking advantage of every opportunity to push the project through to completion.

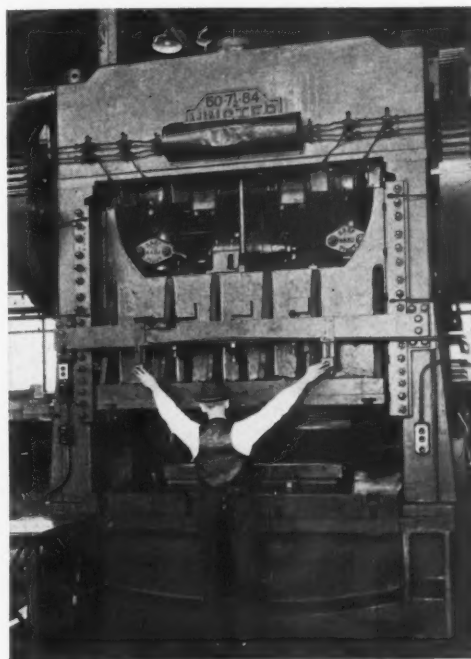
#### **Safety Code for Rubber Mills and Calenders (B28.1-1927)—**

This is the only one of the several standards planned under the Safety Code for Rubber Machinery to be developed. At a meeting held January 17, 1941, the sectional committee agreed that the standard was fundamentally sound and

that no revision should be undertaken for the duration of the emergency. It was decided that the code should be reviewed and supplemented by a National Safety Council Safe Practices Pamphlet. A subcommittee has been appointed to prepare such a pamphlet.

#### **Safety Code for Power Presses and Foot and Hand Presses (B11-1937)—**

A revision of this standard, recommended by the Safety Code Correlating Committee, is not being undertaken at the present time until new methods in press work have evolved further, the National Safety Council, sponsor, reports.



*Courtesy Westinghouse Electric & Mfg. Co.*

#### **Safety Code for Cranes, Derricks, and Hoists (B30)—**

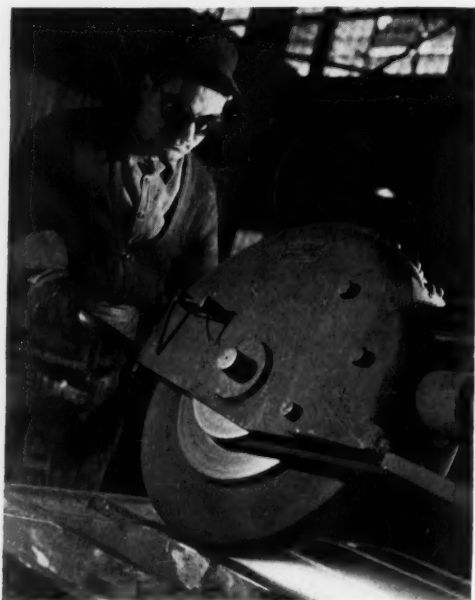
Under date of May 13, 1942, the proposed Crane Code was formally transmitted to the American Standards Association by the joint sponsors, the Bureau of Yards and Docks of the U.S. Navy Department and the American Society of Mechanical Engineers. It is now being considered by the Executive Committee of the Safety Code Correlating Committee.

#### **Safety Code for Paper and Pulp Mills (P1-1936)—**

This code was approved in 1936 as American Tentative Standard. Since then the ASA Procedure has been revised and the American Tentative Standard status eliminated. A revision of the American Tentative Standard Safety Code for Paper and Pulp Mills is being considered in accordance with the request of the Standards Council that steps be taken to review codes approved as tentative in order that they may be revised or reaffirmed.

### **Safety Code for the Protection of Heads, Eyes, and Respiratory Organs of Industrial Workers (Z2-1938)—**

The National Bureau of Standards, sponsor, reports that no committee meetings have been held during the past year.



*Courtesy Norton Company*

### **Safety Code for Jacks (B30.1)—**

Under date of May 29, 1941, a proposed safety code for jacks was submitted to the ASA for approval. The Safety Code Correlating Committee, through its Executive Committee, referred the standard back to the sponsors because of what was believed to be an inadequate consensus of jack manufacturers. The sponsors, the American Society of Mechanical Engineers, and the U.S. Navy Department, Bureau of Yards and Docks, now report as follows: After the proposed American Standard Safety Code for Jacks was submitted to the American Standards Association for its approval, a letter of criticism was received from the representative of the ASA Telephone Group on the ASA Standards Council. The ASA referred his objections to the administrative sponsor which in turn referred them to the members of the subcommittee that had developed the code. Upon instructions from the chairman of the subcommittee, letters were addressed to 20 leading jack manufacturers to obtain their views on the objections raised to the new code. The returns from this inquiry are being studied by the subcommittee.

### **Gas Safety Code (K2-1927)—**

The National Bureau of Standards, joint sponsor for this project, comments that the Gas Safety Code has been inactive for a decade or more. The American Gas Association is the other sponsor.

### **Ventilation Code (Z5)—**

An editorial subcommittee is preparing a draft standard for the control of temperature, humidity, air motion, and odors. The standard will also cover control of air pollution or contamination in industrial, manufacturing, or construction operations. It is expected that the draft will soon be circulated to the sectional committee.

### **Safety Code for Laundry Machinery and Operations (Z8-1941)—**

This standard, originally approved in 1924 as an American Tentative Standard, was reviewed in 1941 and re-approved as an American Standard because its provisions were found to meet present-day requirements. Rules for safety in the operation of all moving parts of equipment used in laundries, as well as provisions for effective guarding of the points of operation of specific laundry machines, are contained in this standard.

### **Safety Code for Exhaust Systems (Z9)—**

It is believed that a number of changes in personnel due to war demands will hinder work on this project for the immediate future. The project covers the design, operation, and maintenance of equipment to provide a safe atmosphere by removing harmful substances and safe disposal of them. One standard (electroplating, Z9.1-1941) has been approved.

### **Code for Inert Gas and Explosion Prevention (Z12.10)—**

Some slight revision has been made in this code, but in view of its comparatively minor nature the committee is not submitting a revised edition for approval until other changes are ready and until a new printing of the standard is needed.

### **Method of Compiling Industrial Injury Rates (Z16.1-1937)—**

The desirability of revising this standard is now under consideration.

### **Safety Code for Safety Glass for Glazing Motor Vehicles Operating on Land Highways (Z26.1-1935)—**

In 1939 a subcommittee was appointed to carry out tests to find out whether the requirements of this standard were adequate for determining some of the important characteristics of safety glass. If these requirements were inadequate the subcommittee was to recommend that the standard be revised. The subcommittee held its investigations and a drafting subcommittee was appointed to prepare a preliminary report and to make recommendations for further research. Because of the great pressure of war work, the members of the Drafting Subcommittee have been unable to complete this report. It has been

recommended, therefore, that work on this project be postponed for the duration of the national emergency.

#### **Textile Safety Code (LI-1929)—**

There has been no progress reported on a request made in 1939 by the Safety Code Correlating Committee that this standard be revised.

#### **Safety Code for Woodworking Machinery (OI-1930)—**

The sectional committee was reorganized and the new personnel was approved by the ASA in 1941. At that time the International Association of Industrial Accident Boards and Commissions and the National Conservation Bureau, joint sponsors, reported as follows: The drafting subcommittee is working on suggestions received through a canvass of the members. A draft standard should soon be ready to be submitted to the sectional committee. No meeting of this committee has yet been held.

The 1930 edition has been out of print for some time in anticipation of this revision.

#### **Work in Compressed Air (Z28)—**

This project, which was set up to develop rules for work under pressure, such as in tunnels and caissons, was stalemated for several years while the committee awaited certain data on decompression rates being developed by the Navy Department. This material has now been made available and a reorganized drafting committee has again started work. The International Association of Industrial Accident Boards and Commissions is the sponsor for the project.

#### **Allowable Concentrations of Toxic Dusts and Gases (Z37)—**

War Standards on the concentrations of Cadmium and Manganese which may be allowed in the air of work places without harm to workers have been completed during the past year. Standards on Nitrous Gases, Mercury, and Chromic Acid and Chromates are nearing completion.

#### **Safety Standards for Household Ladders (Z40)—**

This project was initiated late in 1939. No sectional committee has been organized because the sponsor has recommended that work be postponed until a revision of the Safety Code for Construction, Care, and Use of Ladders is completed.

#### **Performance Requirements for Protective Occupational Footwear (Z41)—**

Although work on this project as a normal peacetime project has been tabled because of the scarcity of preferred materials, work is going forward on a War Standard on the same subject. At the request of OPA and WPB an Emergency Technical Committee has been organized to develop classifications and specifications for safety shoes according to their functional use. The War Standard is to make use of materials now available and to eliminate types and styles not vitally needed during the emergency period.

#### **Other Safety Standards**

Many other safety standards have been completed and approved by the American Standards Association. A complete list can be obtained without charge by writing the ASA.

## **New Zealand Helps Orders By Reference to American Standards**

References to American standard specifications now being included in New Zealand emergency standards will help to avoid confusion when New Zealand companies order material from companies in the United States and Canada. One of the first of the New Zealand standards received by the American Standards Association which makes such reference to American specifications is an Emergency Standard Specification for Black Steel Bars for the Production of Machined Parts for General Engineering Purposes. It provides that the steel shall comply with the provisions of the standard specification of the American Society for Testing Materials (ASTM A 107) for Commercial Quality Hot-Rolled Bar Steels: Grade 4 (British Standard Specification 32-1935: Grade 2); Grade 6 (BSS 32-1936: Grade 1); and Grade 21 (BSS 32-1935: Grade 4).

Reference to American standards when placing orders in America will avoid conflict with manu-

facturing practice in the country from which the material is being purchased, the New Zealand Standards Institute explains. Such conflict would greatly hamper the procurement of supplies. "The considerations involved are so urgent and important that the standard is being issued in emergency form without being first circulated as a draft for comment," the Institute declares. "It will, however, be amended whenever this is shown to be necessary or desirable. Whether or not it will be retained after the war as a regular New Zealand Standard, in either its present or an amended form, will be determined by the circumstances and conditions then prevailing."

The specification in question covers hot-rolled steel bars to be obtained from North America. The steel specified is deemed to be equivalent to that covered by BSS 32-1935: Steel Bars for the Production of Machined Parts for General Engineering Purposes—Grades 1, 2, and 4.





H. R. Wilsey



H. G. Lamb

## Radio and Safety Engineers Join ASA Staff

**T**HE new program of the American Standards Association for the development of standards requested by the War Production Board and the Office of Price Administration has made it necessary for the ASA to expand its staff to take care of the new work. A new Radio Department has been set up, with H. R. Wilsey as Radio Engineer, working under the supervision of J. W. McNair, ASA Electrical Engineer. An Assistant Safety Engineer has also been added to the staff. Henry G. Lamb, who has had considerable experience in industrial safety, will act as assistant to Cyril Ainsworth, Assistant Secretary of the ASA, who is in charge of the ASA safety program.

In addition to the new members added to the regular staff of the ASA, the Institute of Radio Engineers has loaned the services of its secretary, H. E. Westman, to help carry forward the War Standards on Radio as rapidly as possible. Mr. Westman is secretary of the ASA War Committee on Radio and is spending much of his time in forwarding the work of that committee.

H. R. Wilsey, the new ASA Radio Engineer, was formerly with the Underwriters' Laboratories in New York, where he worked on radio testing and on preparation of the standards which the Laboratories use as the basis for their listing of

accepted items. Mr. Wilsey was graduated from the Massachusetts Institute of Technology in 1936, having majored in electrical engineering and communication. He has been with Underwriters' Laboratories since 1937. In addition to his work there on radio and standards he also worked on power switches and fire alarm systems. His interest in radio resulted in his qualifying for a radio amateur's license in 1929.

Mr. Lamb, the new Assistant Safety Engineer, comes to the ASA from the Scott Paper Company. He was responsible for organizing and putting into operation a safety program for this large corporation. Mr. Lamb was graduated from Dartmouth College in 1926, and received his B.S. in Civil Engineering from the Massachusetts Institute of Technology in 1928. For three years he served as structural draftsman for the Stone and Webster Engineering Corporation. In 1931, however, he became Safety Engineer for the Liberty Mutual Insurance Company working in several of the Company's New England offices. He was Assistant District Chief Engineer in the Philadelphia district for the company from 1935 through 1938. His work here included supervision of other safety engineers and also special work in occupational diseases.



# Standards Issued by Associations and Government

(See "ASA Standards Activities", page 294, for new American Standards and progress on ASA projects)

For the information of ASA Members, the American Standards Association gives here a list of the standards received during the past month by the ASA Library for its classified files. With the increasing amount of material being received it has been decided to eliminate from the monthly list a few of those standards which may not be so important to ASA Members, such as Federal Specifications for foods. The list below, therefore,

includes only those standards which the American Standards Association believes will be of greatest interest to Members in connection with their war production.

The standards listed may be consulted by ASA Members at the ASA Library, or copies may be obtained from the organization issuing the standard. Addresses of these organizations are given for your convenience.

## Associations and Technical Societies

### American Institute of Electrical Engineers (33 West 39th Street, New York, N. Y.)

Air Switches and Bus Supports, Standard for AIEE No. 22 June, 1942 40¢  
Apparatus Bushings and Test Code for Apparatus Bushings, Standard for AIEE No. 21 June, 1942 40¢  
Guiding Principles for the Selection of Reference Values for Electrical Standards, Proposed Standard for AIEE No. 3 June, 1942 No charge  
Neutral Grounding Devices, Proposed Standard AIEE No. 32 June, 1942 No charge  
Switchgear Assemblies, Standard for AIEE No. 27 August, 1942 30¢

### American Institute of Steel Construction, Inc. (101 Park Avenue, New York, N. Y.)

Design, Fabrication, and Erection of Structural Steel for Buildings, National Emergency Specifications for the September 10, 1942 25¢

### American Iron and Steel Institute (350 Fifth Avenue, New York, N. Y.)

Steel Products Manual:  
Alloy Steel Sheet 138, Sec. 10 September 22, 1942  
Steel Tubular Products Sec. 18 September, 1942 25¢

### American Society for Testing Materials (260 South Broad Street, Philadelphia, Pa.)

ASTM Standards on Coal and Coke (Includes: Sampling Methods; Chemical Analysis; Methods of Testing; Specifications and Classifications; and Definitions of Terms) September, 1942 \$1.35

### Illuminating Engineering Society (51 Madison Avenue, New York, N. Y.)

Recommended Practice of Office Lighting September, 1942 25¢

### Society of Automotive Engineers, Inc. (29 West 39th Street, New York, N. Y.)

Aeronautical Material Specifications:  
16 new specifications for Aeronautical Alternate Steels issued as of September 1, 1942

### Underwriters' Laboratories, Inc. (161 Sixth Avenue, New York, N. Y.)

Electric Heating Pads, Standard for 3rd ed September, 1942  
Electric Toys, Standard for 1st ed September, 1942  
Weatherproof, Slowburning, and Slowburning-Weatherproof Wires 2nd ed September, 1942

## U. S. Government

### National Bureau of Standards (Washington, D. C.)

#### Building Materials and Structures:

Dimensional Changes of Floor Coverings with Changes in Relative Humidity and Temperature Report BMS85 July 15, 1942 10¢  
Method for Developing Specifications for Building Construction Report BMS87 July 15, 1942 10¢  
Structural, Heat-Transfer, and Water-Permeability Properties of "Speedbrik" Wall Construction Report BMS86 July 15, 1942 15¢  
Structural Properties of "Precision-Built, Jr." (Second Construction) Prefabricated Wood-Frame Wall Construction Report BMS89 July 17, 1942 15¢

#### Building Materials and Structures (Continued)

Structural Properties of "PHC" Prefabricated Wood-Frame Constructions for Walls, Floors, and Roofs Report BMS90 August 18, 1942 15¢  
Electrodeposition (Publications by the staff of the National Bureau of Standards) Revised to September 1, 1942 (Supersedes LC625) Letter Circular LC699  
Home Heating Problems: List of Publications and Articles Revised to September 1, 1942 (superseding LC648) Letter Circular LC702  
List of Publications of Interest to the General Public Revised to August 12, 1942 (superseding LC586) Letter Circular LC696  
Solders and Soldering August 29, 1942 (superseding LC493 and LC343) Letter Circular LC701

#### National Bureau of Standards (Cont'd)

Railway Track Scale Testing Service (July 1, 1941 to June 30, 1942) Letter Circular LC700  
Static Electricity Circular C438 June 10, 1942 10¢

#### Commercial Standards

Clinical Thermometers 3rd ed CS1-42 10¢

#### Federal Specifications Executive Committee (U. S. Treasury Department, Washington, D. C.)

##### Federal Specifications

(Copies available from Superintendent of Documents, Government Printing Office, Washington, D. C.)

The date after the title of the specification indicates when it becomes effective.

Applicators; wood (new) GG-A-616 February 1, 1943  
Bronze; Manganese; castings (including manganese-aluminum bronze) (superseding QQ-B-726a) QQ-B-726b December 15, 1942  
Brushes; tooth (superseding H-B-671) H-B-671a January 1, 1943  
Cans, Steel (Tinned-Plate, Terne-Plate, and Black Sheet); friction-covers (superseding RR-C-96) RR-C-96a January 15, 1943  
Combs; plastic (new) L-C-566 January 1, 1943  
Cloth; tracing (superseding CCC-C-531a) CCC-C-531b February 1, 1943  
Copper; bars, plates, rods, shapes, sheets, and strips (Amendment 2) QQ-C-501a January 1, 1943  
Copper-Silicon-Alloy; castings (Amendment 1) QQ-C-593 January 1, 1943  
Hoes; mattocks and picks (Amendment 2) GGG-H-506a February 1, 1943  
Iron and Steel; sheet, zinc-coated (galvanized) (Amendment 1) QQ-I-716 January 15, 1943  
Leather; case (superseding KK-L-166) KK-L-166a January 1, 1943  
Nickel-Silver (German Silver); bars, plates, rods, shapes, sheets, and strips (Amendment 2) QQ-N-321 January 1, 1943  
Pads; heating, chemical (Amendment 1) O-P-46 February 1, 1943  
Pillows; feather (Amendment 2) V-P-356 February 1, 1943  
Pots, Fire; gasoline and kerosene (new) GGG-P-596 January 1, 1943  
Raceways and Fittings; metallic, surface (new) W-R-32 February 1, 1943  
Tile, Drain; clay (new) SS-T-310 January 1, 1943  
Tubing, Aluminum-Alloy (Al-17) (Aluminum-Copper-Magnesium-Manganese); round, seamless (Amendment 1) WW-T-786a February 1, 1943  
Wire; phosphor-bronze, spring (Amendment 2) QQ-W-401 January 1, 1943

##### Emergency Alternate Federal Specifications

(Prepared in collaboration with the War Production Board)

Blinds; Venetian, wood-slat (new) E-LLL-B-441 October 7, 1942  
Bronze; castings (superseding E-QQ-B-691a, 7/28/42) E-QQ-B-691a September 30, 1942

Bronze, Manganese; castings (including manganese-aluminum bronze) (superseding E-QQ-B-726a, 7/28/42) E-QQ-B-726b October 14, 1942  
Brooms, Rattan, Push E-H-B-71 September 29, 1942  
Brushes; flowing, skunk-hair (superseding E-H-B-256, 2/17/42) E-H-B-256 September 19, 1942  
Calendar-Pads and Stands (superseding E-GG-C-101a, 1/28/42) E-GG-C-101a September 17, 1942  
Cans; milk, steel, tinned E-RR-C-83 September 30, 1942  
Cards; guide, pressboard (file size) (superseding E-UU-C-96b, 8/25/42) E-UU-C-96b October 14, 1942  
Combs; rubber (hard) (superseding E-ZZ-C-551, 2/4/42) E-ZZ-C-551 October 7, 1942  
Fasteners; paper, brass (superseding E-FF-F-101, 4/30/42) E-FF-F-101 September 25, 1942  
Folders; file, pressboard (superseding E-UU-F-581b, 8/25/42) E-UU-F-581b September 30, 1942  
Heaters, Electric; water, storage, domestic E-W-H-196 September 30, 1942  
Hose:  
gasoline, wire-stiffened E-ZZ-H-471 October 24, 1942  
suction, water, smooth-bore (superseding E-ZZ-H-561b, 5/12/42) E-ZZ-H-561b October 24, 1942  
Hot-Plates; electric (new) E-W-H-636 October 7, 1942  
Ink; copying and record (new) E-TT-I-521 October 7, 1942  
Leather; artificial (upholstery) (superseding E-KK-L-136a, 3/23/42) E-KK-L-136a September 30, 1942  
Machines, Coffee-Grinding; electrically operated (superseding E-OO-M-23, 8/19/42) E-OO-M-23 September 25, 1942  
Mats, Door; fiber E-DDD-M-156a September 30, 1942  
Pipe and Pipe-Fittings; soil, cast iron (new) E-WW-P-401 September 25, 1942  
Plumb-Bobs (superseding E-GGG-P-501, 4/9/42) E-GGG-P-501 September 30, 1942  
Powder, Insect; (pyrethrum-powder) (new) E-O-P-571 September 25, 1942  
Receptacles, Waste-Paper; fiber, office and lobby (superseding E-LLL-R-191a, 7/28/42) E-LLL-R-191a September 25, 1942  
Soap:  
laundry, chip, rosin-type E-P-S-581 October 24, 1942  
laundry, granulated, rosin-type E-P-S-583 October 24, 1942  
Sodium Fluoride (Insecticide) (new) E-O-S-601 September 25, 1942  
Solder; tin-lead (superseding E-QQ-S-571, 8/16/42) E-QQ-S-571a September 29, 1942

#### U. S. Department of Agriculture (Washington, D. C.)

##### Agricultural Marketing Administration

Check List of Standards for Farm Products Revised to August, 1942

Developments in Cotton Standardization and Related Services Announcement No. 163 August, 1942

##### Consumers' Counsel Division

Inspection and Control of Weights and Measures in the United States Project No. 701-3-40 May, 1942 15¢

## ASA War Committee Will Develop Measuring Instruments Standards

Conservation of vital materials and greater interchangeability of parts will be the aim of the new War Standards Committee on Electrical Measuring Instruments recently organized by the ASA. The committee is already well under way with its work. This war standards project, which was requested by the Simplification Branch of

the WPB Conservation Division, will give special attention to voltmeters, ammeters, and voltmeters. Sizes, mountings, ranges, performance tests, and standard labeling and packaging will be considered by the committee. Investigation indicates that standardization of 2½ and 3½-inch meters, which are being purchased in large quantities by the combat forces, is of immediate importance, the War Production Board declares.

R. B. Shepard, WPB, heads the committee.

# Standard Tests and Specifications In WPB and OPA Orders

**I**N many of the War Production Board and Office of Price Administration orders, standards play an important part, either through reference to existing standards or through setting up standards or simplification schedules in the order

itself. Such standards form the basis for control of production, conservation of materials, or for control of prices. The following orders have the effect of setting up standard specifications, tests, grades, or simplification schedules.

## War Production Board

### Cement, Portland (Limitation Order L-179)—

Reduces manufacture of Portland Cement to three types, but permits a 20 per cent increase in production to meet demands of the military construction program. Saves approximately 20 per cent of the power and a considerable tonnage of alloy-steels consumed by the industry, the WPB announces.

#### (Amendment 2 to General Limitation Order L-179)—

When a purchaser of Portland Cement requires tests of the cement he buys, such tests may be made only in accordance with Emergency Alternate Federal Specifications for Cement; Portland—June 5, 1942, E-SS-C158a or with American Society for Testing Materials Specifications C 77-40. The laboratory to do the testing must be either the National Bureau of Standards or a laboratory designated by the National Bureau of Standards.

### Cotton Textiles for Agricultural and Food Processing Uses (General Preference Order M-218)—

#### Schedule I to Order M-218—Dairy Supplies—

Defines "Dairy textiles" as sheetings, flannels, and print cloths of specific weights and thread count.

### Douglas Fir Plywood (Moisture-Resistant Type) (Limitation Order L-150 as amended October 8, 1942)—

Only the types and sizes of Douglas fir plywood set forth in this order may be manufactured. The order provides a list of six standard panels, and specifies width, length, and thickness of each. The order limiting production of plywood eliminated 4000 of 4300 types and sizes, a 93 per cent elimination, the WPB announces. It increased production of plywood, however, by 20 million feet per month, relieving an acute shortage in the low-

grade plywood used in war construction, the WPB announces.

### Foods and Food Products

#### (Amendment 10 to Revised Price Schedule 53)

##### Fats and Oils—

Sets standard specifications for "refined rendered pork fat" in terms of moisture content, suspended matter, taste and odor, and stability. Also defines "base or standard commercial refined lard," "special refined hardened lard," "open kettle rendered lard," and "neutral lard."

### Farm Machinery and Equipment and Attachments and Repair Parts Thereof (Limitation Order L-170)

Gives the Director General for Operations authority to issue schedules establishing specifications for the production of farm machinery and equipment and repair parts. Such specifications may include requirements to standardize or simplify the types, sizes, or models, or the specifications for any item of farm equipment; to eliminate, reduce, or conserve the use of critical materials in its production; and to substitute less critical for more critical materials. Schedule A eliminates Grades A and B producers from the production of certain types of farm machinery and equipment, concentrating production of such equipment in the hands of Grade C producers.

### Hand Tools Simplification

#### (Amendment 2, Appendix A, Schedule I, Limitation Order L-157)—

This amendment gives a new list of types, sizes, and grades of scoops and telegraph spoons which may be manufactured.

#### (Schedule II to Limitation Order L-157) Forged Axes, Forged Hatchets, Forged Broad Axes, Forged Adzes, and Forged Light Hammers—



Limits production of axes to 147 of the 382 varieties formerly produced; limits hatchets to 38 varieties from the 62; broad axes to 5 varieties; and adzes to 9. Hammers have been reduced from 180 varieties to 113. Each schedule defines the characteristics of the grades permitted, and is expected to conserve vital steel alloy.

#### (Schedule III to Limitation Order L-157) Manually-Operated Wood and Special Purpose Saws—

Limits production and distribution to the types, grades, sizes, and number of models listed. The order permits manufacture of only 210 of approximately 800 varieties, eliminating 74 per cent of the three grades of saw (Grades A, B, and C), and includes specifications for the materials for each grade. The order will save about 10 per cent of the steel required by this industry (1100 tons), it is estimated.

#### (Schedule IV to Limitation Order L-157) Heavy Forged Hand Tools—

Limits sizes, types, grades, weights, and finishes for the manufacture of heavy forged hand tools effective November 3.

### **Fluid Milk Shipping Containers (Conservation Order M-200)—**

Restricts manufacture of milk containers to a limited number of sizes. Specifies the gauge of steel to be used in the large-size shipping containers, and the type of covers and handles that may be used.

### **Industrial Power Trucks (Limitation Order L-112 as amended September 28)—**

Limits production of industrial power trucks to standard models as listed from time to time in orders issued by the War Production Board. The original order reduced the types of industrial power trucks from 221 to 50, but permitted a 25 per cent increase in production of electric trucks where a shortage of capacity existed.

### **Instruments, Valves, and Regulators Used in Industrial Processes (Conservation Order L-134) Chromium and Nickel**

Provides that manufacturers of industrial instruments, valves, and regulators shall be limited to the types and sizes specified in the order, and curtails the use of chromium and nickel alloy. In the case of temperature bulbs (fluid-filled tube system type), when used with a

mercury-filled system in a socket, the order provides the use of SAE 4140 steel or alternate steels of no greater chromium alloy content. The nickel and chromium alloy content in the thermocouple wires is limited by the order and the size of the wire regulated in terms of the B&S gage for the different operating temperatures. Studs for differential pressure changes and for valve bodies and flanges are also to be manufactured from SAE 4140 steel of alternate steels of no greater chromium alloy content.

### **National Emergency Specifications for the Design of Reinforced Concrete Buildings (Directive 9)**

Makes effective the national emergency specifications which provide lower design loads for reinforced concrete buildings for all buildings constructed by, financed by, or the construction of which is approved by any Government departments or agencies. The order becomes effective sixty days after October 5.

### **X-Ray Equipment (General Limitation Order L-206)—**

Sets up simplified practice recommendations, limiting production of X-ray equipment to the models or types listed and described in Schedule A of the order.

## **Office of Price Administration**

### **Burlap (Amendment 3 to Revised Price Schedule 18)—**

Lists widths and weight and maximum prices for common burlap as well as two special-finished burlaps—double calendered, and crop and mangled.

### **Canned Shrimp. Amendment 28 to Supplementary Regulation 14 to General Maximum Price Regulation—**

Future shrimp packing may be done only in No. 1 picnic- and No. 5 large-sized cans, instead of in seven different sizes as previously. The No. 1 picnics will contain 7 ounces of wet packed shrimp under the new Food and Drug Administration regulation instead of 5¾ as hitherto. The No. 5 size can will contain 38 ounces as compared with 32 ounces formerly. Previously, six of the seven can sizes of shrimp packed contained from five to less than ten ounces.

### **Fats and Oils (Amendment 9 to Revised Price Schedule 53)—**

Defines "standard shortening" and hydrogenated shortening.

### **Fine Cotton Grey Goods (Amendment 4 to Revised Price Schedule 11)—**

Defines "standard" as it applies to this order as cloth having a width of 35 in., 39½ in., 46 in., or 48 in. and a total count per inch of 37 to 48 sley and 14 to 34 picks (including roving), inclusive. Maximum prices for different types of cloth in the standard sizes are given.

### **Iron and Steel (Maximum Price Regulation 230) Reusable Iron and Steel Pipe—**

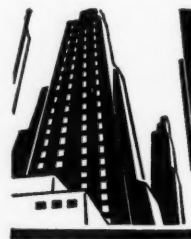
Provides a price premium of 20 per cent for threaded and coupled oil country tubular goods which meets specifications and tests of the American Petroleum Institute as well as other requirements specified in the order.

### **Meat and Fish, Fresh, Cured and Canned (MPR 148) Dressed Hogs and Wholesale Pork Cuts—**

Defines minimum specifications for grades of wholesale pork cuts; for example, "Grade A sliced bacon" includes bacon sliced from dry sugar-cured or semi-dry sugar-cured fancy-trimmed square-cut seedless whole bellies, from which the rind has been removed, in whole slices not over 9½ inches in length and not over 2¼ inches or less than ¾ of an inch in width, containing no more than two part slices to the package. Sets maximum prices for such wholesale pork cuts.

### **Cement (Maximum Price Regulation 224)—**

Recognizes price differentials between American Society for Testing Materials Types 1 and 2 Portland cement and American Society for Testing Materials Type 3 Portland cement for use in determining prices under this price order.



### **Raw Materials for Cotton Textiles (Maximum Price Regulation 33) Carded Cotton Yarns and the Processing Thereof—**

This Regulation provides specifications for base-grade yarns, defined in terms of ply, twist, turns per inch, put-up and cotton content. "As a result of the establishment of such standards for base grades, it is possible in several instances to establish premiums for other than base-grade yarns," the OPA announces. "It is also possible to prevent a deterioration in the quality of the yarns through the setting of minimum as well as maximum standards."



### Rubber and Products and Materials of Which Rubber Is a Component (Maximum Price Regulation 229) Retail and Wholesale Prices for Victory Line Waterproof Rubber Footwear—

Provides maximum prices for the waterproof rubber footwear produced in line with the War Production Board Supplementary Order M-15-b-1 ("victory line footwear"). It is necessary to establish maximum prices for this type of footwear, the OPA explains, because it was not generally sold at retail or wholesale in March, 1942.

### Lumber and Lumber Products (MPR 109, Amendment 2)—Aircraft Spruce—

Lists maximum prices for different standard grades of Sitka spruce, Noble fir, and West Coast hemlock lumber and lists the minimum percentages of A Cuttings and B Cuttings which each piece of each grade shall contain. Four Aero Recovery Grades are given. "A Cutting" is defined as a piece of lumber which meets "American Specifications" for aircraft quality lumber and which is not less than 1 in. thick, not less than 3 in. wide, at least  $\frac{3}{4}$  as long as the piece from which it is to be recovered by remanufacture, and shall not be less than 6 ft. long. "B Cutting" is defined as a piece of lumber which meets the "American Specifications" for Aircraft quality lumber and which is not less than 1 in. thick, not less than 3 ft. long, and which has a surface area of not less than one square foot.



### Iron and Steel Scrap (Amendment 8 to Revised Price Schedule 4) Iron and Steel Scrap—

Gives specifications for different grades of scrap: No. 2 heavy melting steel; No. 2 busheling; billet, bloom and forge crops; bar crops and plate scrap; punchings and plate scrap; and baled machine shop turnings.

### Appalachian Hardwood Lumber (Amendment 6 to Maximum Price Regulation 146)—

Specifies thickness, widths, and lengths of various grades of lumber for which maximum prices are set.

### Hardwood Lumber (Amendment 2 to Maximum Price Regulation 97) Southern Hardwood Lumber—

Sets maximum prices for special grades and combination grades for southern hardwood lumber.

### Northern Hardwood Lumber (Maximum Price Regulation 223)—

Sets maximum prices for Northern hardwood lumber in standard or near-standard grades, and also in "standard special" grades or items.

### Northern Softwood Lumber (Maximum Price Regulation 222)—

Sets maximum prices for Northern softwood lumber in standard or near-standard grades, and also includes a section on special grades or items.

## Byrnes Asks for Standards As Weapon for Stabilization

James F. Byrnes, economic stabilization director, has placed standardization and simplification in the forefront of his program to "guarantee our people the basic living essentials that they must have at prices they can pay" and to relieve the pressure on the Treasury through "effecting economies and reducing costs by simplifying and standardizing production and distribution."

Mr. Byrnes is asking Donald M. Nelson, chairman of the War Production Board, Harold Smith, Director of the Budget, and Leon Henderson, Director of the Office of Civilian Supply, each to undertake a part to carry out such a comprehensive program.

The text of Mr. Byrnes' statement follows:

1. I have asked the chairman of the War Production Board to undertake a vigorous program of simplification and standardization of production and distribution not merely to eliminate frills and wasteful practices but, wherever necessary and advantageous, to concentrate on the production of relatively few types of goods of standardized quality, design and price.

Effectively carried through, such a program can combat the rising costs that threaten price ceilings, maintain at maximum the output of civilian goods that is possible and bring the prices of some essentials down.

Such a program, too, would yield considerable savings in manpower, materials, machine capacity, transportation, fuel and other acute war needs.

2. I have asked the Budget Bureau for a review of all subsidies related to economic stabilization that now are

in force with a view to determining whether those subsidies can be discontinued or reduced or what alternatives are possible. As alternatives, I have in mind, particularly, the possibilities of lowering profit margins and of effecting economies and reducing costs by simplifying and standardizing production and distribution.

3. I have asked that the Office of Civilian Supply undertake a study to determine what are our bed-rock minimum civilian needs consistent with the fullest war production.

It is not, of course, our intention to try to reduce civilians to this bed-rock minimum. However, while a rough estimate at best, such a study should be of value in planning such matters as rationing, subsidies, the extent to which simplification and standardization can be pushed and manpower.

Both the determination of these minimum civilian needs and simplification and standardization of production and distribution are parts of what is intended to be a positive program that will guarantee our people the basic living essentials that they must have at prices that they can pay.

By reducing the number of varieties, styles and models, eliminating unnecessary costs, decoration, fancy packaging and the like we can clear the way for a fuller production of basic essentials.

The more far-reaching the measures taken to reduce excess spending, as in the new tax bill, the tighter our manpower situation and the more our civilian economy is contracted in favor of war production, the greater will be the need for such a positive program to guarantee our people at least their minimum essentials.

That has now become a fundamental feature of our policy of economic stabilization.

# ASA Standards Activities

## Standards Available Since Our October Issue

Acoustical Terminology Z24.1-1942 25¢  
 Gas Floor Furnaces Gravity Circulating Type CS99-42 5¢  
 Noise Measurement Z24.2-1942 25¢  
 Pipe Threads B2.1-1942 75¢

## Standards Approved Since Our October Issue

Code for Pressure Piping B31.1-1942  
 Forged or Rolled Steel Pipe Flanges for General Service (ASTM A 181-37) Revision of American Standard G46.1-1942  
 Gas Burning Appliances  
     Domestic Gas Ranges Z21.1-1942  
     Gas Space Heaters Z21.11-1942  
     Gas-Fired Duct Furnaces Z21.34-1942  
 Gypsum  
     Gypsum Lath (ASTM C37-40) American Standard A67.1-1942  
     Gypsum Wall Board (ASTM C36-34) American Standard A69.1-1942  
     Gypsum Sheathing Board (ASTM C79-34) American Standard A68.1-1942  
     Test for Gypsum and Gypsum Products (ASTM C26-40) American Standard A70.1-1942  
 Materials for Boilers, Pressure Vessels, etc.  
     Carbon-Steel Plates for Stationary Boilers and Other Pressure Vessels (ASTM A-70-39) Revision of American Standard G29.1-1942  
     Molybdenum-Steel Plates for Boilers and Other Pressure Vessels (ASTM A204-39) Revision of American Standard G34.1-1942  
     Low-Carbon Nickel-Steel Plates for Boilers and Other Pressure Vessels (ASTM A203-39) Revision of American Standard G33.1-1942  
 Petroleum Products and Lubricants  
     Test for Carbon, Residue of Petroleum Products (Ramsbottom Carbon Residue) (ASTM D524-42) American Standard Z11.47-1942  
     Test for Flash Point by Means of the Pensky-Martens Closed Tester (ASTM D93-40) American Standard Z11.7-1942  
     Test for Gum Content of Gasoline (ASTM D381-36) American Standard Z11.36-1942  
     Test for Melting Point of Paraffin Wax (ASTM D87-37) American Standard Z11.4-1942  
     Test for Tetraethyl Lead in Gasoline (ASTM D526-42) American Standard Z11.48-1942  
     Test for Vapor Pressure of Petroleum Products (Reid Method) (ASTM D323-41) American Standard Z11.44-1942  
 Power-Operated Radio Receiving Appliances (UL 6th ed) C-65.1-1942  
 Structural Steel for Locomotives and Cars (ASTM A113-39) Revision of American Standard G39.1-1942  
 Radio  
     Recommended Practices for Loudspeaker Testing C16.4-1942  
     Recommended Practices for Volume Measurement of Electrical Speech and Program Waves C16.5-1942  
 Sampling and Analysis of Coal and Coke K18-1942  
 Steel for Bridges and Buildings, Specifications for C24-1942  
 Symbols for Telephone, Telegraph and Radio Use Z32.5-1942  
 Transformers  
     Guides for Operation of Transformers C57.3-1942  
     Test Code for Transformers, Regulators and Reactors C57.2-1942  
     Transformers, Regulators and Reactors C57.1-1942

## Standards Approved (Cont'd)

Weather-Resistant (Weatherproof) Wire and Cable, URC Type C8.18-1942  
 Welding Symbols and Instructions for Their Use Z32.1-1942

## Standard Reaffirmed by ASA

Rock Dusting of Coal Mines to Prevent Coal Dust Explosions M13-1925

## Standards Being Considered by ASA for Approval

Cast-Iron Pipe Flanges and Flanged Fittings, Class 250 (Revision of B16b-1928)  
 Cold-Rolled Strip Steel (ASTM A109-38) G47  
 Colored Textiles, Fastness L14  
 Cranes, Derricks, and Hoists, Safety Code B30  
 Electrical Insulating Materials  
     Laminated Round Rods Used in Electrical Insulation (ASTM D349-39) C59.15  
     Laminated Tubes Used in Electrical Insulation (ASTM D348-39) C59.14  
     Sheet Plate Materials Used in Electrical Insulation (ASTM C229-39) C59.13  
     Test for Impact Resistance of Electrical Insulating Materials (ASTM D256-38) C59.11-1941  
     Testing Molded Materials Used for Electrical Insulating (ASTM D48-39) C59.1-1940  
 Identification Markings of Compressed Gas Cylinders, Proposed Standardization  
 Keyways for Holes in Gears B6.4  
 Lime  
     Limestone, Quicklime, and Hydrated Lime, Methods of Chemical Analysis of (ASTM C25-29)  
     Quicklime for Structural Purposes, Specifications for (ASTM C5-26)  
 Measurement of Test Voltage in Dielectric Tests C68.1  
 Metal-Cleaning Sanitation, Code of Recommended Good Practices  
 Protection of Structures Containing Inflammable Liquids and Gases—Part 3 of Code for Protection Against Lightning (From status as American Tentative Standard to American Standard) C5, Part 3  
 Rotating Electrical Machinery on Railway Locomotives and Rail Cars and Trolley, Gasoline-Electric and Oil-Electric Coaches (Revision of C35-1936) C35  
 Structural Steel for Locomotives and Cars (ASTM A113-39) Revision of American Standard G39.1-1942  
 Threaded Cast-Iron Pipe for Drainage, Vent, and Waste Services

## Standards Submitted for Consideration Since Our October Issue

Abrasive Wheels, Safety Code for Use, Care and Protection of Revision of B7-1935  
 Alloy-Steel Castings for Valves, Flanges, and Fittings for Service at Temperatures from 750 to 1100 F (ASTM A157-41) Revision of G36.1-1942  
 Central Heating Gas Appliances Revision of Z21.13-1940  
 Electrolytic Copper Wire Bars, Cakes, Slabs, Billets, Ingots and Ingot Bars Revision of H17.2-1932  
 Free-Cutting Brass Rod for Use in Screw Machines Revision of H8-1941  
 Lake Copper Wire Bars, Cakes, Slabs, Billets, Ingots and Ingot Bars Revision of H17.1-1932

## Standards Under Consideration—(Continued)

### Rivets

Small Rivets Addenda to B18a-1927  
 Tinners', Coopers', and Belt Rivets Addenda to B18g-1928

Textile Testing Machines, Specifications for (ASTM D76-41) Revision of L15.1-1942

Wrought-Iron and Wrought-Steel Pipe and Tubing  
 Specifications for Welded and Seamless Steel Pipe (ASTM A53-40) Revision of B36.1-1940

Specifications for Seamless Alloy-Steel Boiler and Superheater Tubes (ASTM A213-40) Revision of B36.17-1942

Specifications for Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes (ASTM A83-40) Revision of B36.12-1942

Specifications for Electric-Fusion-Welded Steel Pipe (Sizes 30 in. and over) (ASTM A134-39) Revision of B36.4-1939

Specifications for Electric-Resistance-Welded Steel Pipe (ASTM A135-34) Revision of B36.5-1935

Specifications for Electric-Fusion-Welded Steel Pipe (Sizes 8 in. to but not including 30 in.) (ASTM A139-39) Revision of B36.9-1939

Specifications for Electric-Fusion-Welded Steel Pipe for High Temperature and High-Pressure Service (ASTM A155-36) Revision of B36.11-1939

Tentative Specifications for Lap-Welded and Seamless Steel Pipe for High-Temperature Service (ASTM A106-42T)

## American War Standards

### Standards Approved and Published

Accuracy of Engine Lathes B5.16-1941 25¢  
 Allowable Concentration of Cadmium Z37.5-1941 20¢  
 Color, Specification and Description of Z44-1942 25¢  
 Domestic Gas Ranges, Approval Requirements Z21.1ES-1942 \$1.00

Gas Water Heaters, Approval Requirements Z21.10WS-1942 \$1.00

Machine Tool Electrical Standards C74-1942 40¢

Manganese, Allowable Concentration of Z37.6-1942 20¢

Photographic Exposure Computer Z38.2-1942 \$1.00  
 Quality Control

Guide for Quality Control Z1.1-1941 } In one  
 Control Chart Method of Analyzing Data : } Volume  
 Z1.2-1941 } 75¢

Control Chart Method of Controlling Quality During Production Z1.3-1942 75¢

Straight Screw Threads for High-Temperature Bolting B1.4-1942 25¢

### STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

Of Industrial Standardization and Commercial Standards Monthly, published once a month at New York, N. Y., for Oct. 1, 1942.  
 State of New York, County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Ruth E. Mason, who, having been duly sworn according to law, deposes and says that she is the editor of the Industrial Standardization and Commercial Standards Monthly and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) American Standards Association, 29 West 39th St., New York, N. Y. R. E. Zimmerman, President (Vice-Pres., U. S. Steel Co.), 29 West 39th St., New York, N. Y. P. G. Agnew, Secretary, 29 West 39th St., New York, N. Y.

## War Standards Approved Since Our October Issue

Code for Electricity Meters (Revision of Paragraph 827) C12WS-1942

### Standards Under Way

Allowable Concentration of Ether Z37

Allowable Concentration of Xylene Z37

Allowable Concentration of Xylol Z37

Class 125 Cast-Iron Flanged Fittings B16a

Color Fastness of Textiles, Terminology L14

Electrical Indicating Instruments

Military Radio Equipment and Parts C75:

- |                                       |                             |
|---------------------------------------|-----------------------------|
| 1. Insulating Materials               | 8. Resistors—Variable       |
| (a) Steatite                          | (a) Composition             |
| (b) Plastics                          | (b) Wire Wound              |
| (c) Others                            |                             |
| 2. Insulating Forms                   | 9. Transformers             |
| (a) Steatite                          | (a) Power                   |
| (b) Plastics                          | (b) Audio Frequency         |
| (c) Others                            | (c) Radio Frequency         |
| 3. Capacitors—Fixed                   | 10. Tube Sockets            |
| (a) Mica                              | (a) Receiving               |
| (b) Paper                             | (b) Transmitting            |
| (c) Electrolytic                      | (c) Cathode Ray             |
| (d) Ceramic                           |                             |
| 4. Capacitors—Variable                | 11. Connectors              |
| (a) Receiver                          | (a) Telephone               |
| (b) Transmitter                       | Plugs and                   |
| (c) Trimmer                           | Jacks                       |
| 5. Dynamotors and Similar Power Units | (b) Multicontact            |
| 6. Crystals and Holders               | Plugs and Re-               |
| 7. Resistors—Fixed                    | ceptacles                   |
| (a) Composition                       | 12. Dry Batteries           |
| (b) Wire Wound                        | (a) Single Cell             |
|                                       | (b) Multicell               |
|                                       | 13. Vibrator Power Supplies |

Packages for Electronic Tubes Z45

Pressure-Temperature Ratings for Steel Pipe Flanges and Flanged Fittings B16e5

Protective Lighting of Industrial Plants A85

Protective Occupational Footwear

### New Projects Approved

Color Code for Lubricants for Machinery Z47

Goggles and Respiratory Equipment, Standardization and Simplification of

Threading of General Purpose Nuts and Bolts B1

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

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